DEVELOPMENT OF AN INSTRUMENT TO ASSESS PARENTAL KNOWLEDGE OF CHILDREN'S PLAY

BY

SANDRA SMITH SULLIVAN

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to Bob who taught me to dream,

to Todd and Lee who taught me to play,

and especially to the memory of my parents
who taught me to delight in living.

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Abstract of Dissertation Presented to the Graduate
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DEVELOPMENT OF AN INSTRUMENT TO ASSESS PARENTAL KNOWLEDGE OF CHILDREN'S PLAY

By

Sandra S. Sullivan

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The study involved the development of the Parental Knowledge of Children's Play Questionnaire (PKPQ). The purpose was to determine the extent to which parental knowledge of the functions of play in children's development can be reliably and validly assessed.

The 50-item True-False questionnaire objectively measures parental knowledge of the functions of caregiver-infant play; fantasy play; "rough and tumble" play; and group games in cognitive, social, personality, and physiological development, and in the formation of family relationships.

The PKPQ was administered to a sample of parents having children enrolled in four selected schools in Alachua County, Florida. Although the exact number of parents receiving questionnaires is unknown, the number of children whose parents comprised the sample was 815.

It was determined that the resulting sample was representative of those parents who are likely to voluntarily participate in parenting and child development education related courses and programs but not necessarily of the total parent population. The findings of the study surrounding the development of the PKPQ are considered conclusive while those relating to performance on the questionnaire by groups of parents within the sample are considered tentative.

The coefficient correlation for test-retest reliability of total scores was +.93. Phi coefficients for individual items ranged from +.21 to 1.00 with four items receiving coefficients less than +.50. A coefficient of +.88 was computed for internal consistency among items.

Investigation of parental and familial variables related to knowledge of child development revealed differences among total scores of parents differing only on educational level which correlated highly with total score on the PKPQ. The assignment of items to one of the four areas of children's development yielded 70% agreement among "experts" for 30 items. A significant difference was found to exist between the mean total scores on the PKPQ of the "experts" and the parents within the resulting sample.

Point biserial correlation coefficients computed for items ranged from +.14 to +.56 and were all significant at the .05 level.

The data analyses support the conslusion that the PKPQ has adequate reliability and validity for establishing the need for instructing parents in the functions of play in children's development and for identifying individual parents who do not possess knowledge of play. The findings for individual items suggest that 13 items require revision to improve their usefulness in the instrument and two items should be omitted from the final form.

The tentative conclusions drawn from the resulting sample are that parents lack sufficient knowledge to effectively direct their children's development through the use of the play activities referred to in this study. It is also concluded that frequent close proximity to the child, accumulated parenting experience, access to child development information, and a high level of general education do not wholly account for one's knowledge of the relationship between play and development. Rather, specialized instruction in this area is required.

The implications drawn from this study are that play has an important role in building family relationships and instructing children, and that in order for parents (and teachers) to more competently use play to facilitate children's development and improve family relationships, counselor training must prepare counselors to work with families in this manner. Further implications are that, as a research tool, the PKPQ will be useful in the discovery of factors contributing to healthy family relationships and family functioning. The PKPQ will also be useful in the curriculum development of play programs for parents and teachers, in the evaluation of the effects of such programs, and in the selection of persons to be included in these programs.

CHAPTER I

INTRODUCTION

"You'll never learn anything worthwhile if you keep playing around."

"No, I can't play with you now. I have important things to do."

"Josh isn't busy. He's just playing with the kids."

Despite the accumulation of research substantiating the value of play in the evolution of culture, in the development of the child, in the individual's attainment of a satisfying and fulfilling life, and in the enhancement of family life, disparaging statements like those above continue to be prevalent in the daily interactions of American parents.

Caillos (1961) exalts the role of play in transmitting society's cultural values in the following excerpt from his book, Man, Play, and Games:

> the spirit of play is the source of the fertile conventions that permit the evolution of culture. It stimulates ingenuity, refinement, and invention. At the same time it teaches loyalty in the face of the adversary and illustrates competition in which rivalry does not survive the encounter. To the degree that he is influenced by play, man can check the monotony, determinism, and brutality of nature. He learns to construct order, conceive economy, and establish equity. (p. 58)

Play between parents and their children has been shown to be a necessary prerequisite for the acquisition of cognition and social skills, and for healthy personality and physiological development. In infancy, the importance of play lies in its contribution to the formation of attachment (i.e., a warm, intimate, and continuous relationship between the child and mother or mother substitute).

Bowlby (1965; 1969), one of the foremost investigators of the child's early experiences and their relationship to development, studied institutionalized infants, those who have been deprived of the mother-infant relationship. Although Bowlby's research does not answer the question of why the absence of a "mothering" relationship interferes with development, his findings overwhelmingly show maternal deprivation to have deleterious effects on all areas of the child's development.

Ainsworth (1973) furthered Bowlby's investigation of attachment by discerning the elements which bring about secure attachment. She, as well as others interested in early childhood experiences (e.g., Frank, 1957; Harlow & Suomi, 1970; Rutter, 1972) found that sensory stimulation occurring in mother-infant play is essential for attachment formation.

One of the earliest cognitive awakenings in infants occurs when they realize that they are physically and psychologically separate from other persons and things. They come to this realization through the gentle sensory stimulation provided by their mother or other primary care-giver in not only care-giving activities but also in play. The mother's gentle rocking, patting, snuggling, tickling, and hugging of the infant in a playful manner is not only pleasurable for both, but is also an outside source of intrusion on the infant's body. Through these intrusive playful activities, children experience themselves as being differentiated from their mother (Des Lauriers, 1962). This differentiation makes it possible for children to engage in intimate relationships with others (Montagu, 1978) and to master the tasks of development (Frank, 1957).

Explanations of why differentiation must be accomplished before relationships with others can be established are not explicit in the literature. However, the research findings of Bowlby (1965; 1969) and those reported by Brody (1978) and Rutter (1972) confirm that difficulties in personality and social development result when the sensory stimulating experiences which promote attachment to a "mothering" person and later successful detachment from that person are absent in early childhood.

Play not only promotes attachment and individuation in infancy and early childhood, but it also stimulates muscle tone and physiological growth, contributing to efficient functioning of internal systems (Montagu, 1978; Rutter, 1972). Healthy physiological development is the foundation for growth in other areas of the child's development (Montagu, 1978).

Just as much of the research in the area of attachment and development is based upon studies of children deprived of a mother-infant relationship, so is the research in the area of play and continued development based upon studies of children deprived of play experiences in early childhood. Pavenstedt (1967) and Murphy (1972) both found the ability of play-deprived children to structure cognitions to be severely impaired, while Smilansky (1968) found their play to be unimaginative.

A reason for interference in the intellectual and creative development of play-deprived children lies in the function of play beyond early infancy in reducing the pressure of goal attainment. Bruner, Jolly, and Sylva (1976) found that a reduction in the frustration brought about by having to successfully complete a task promotes problem-solving behaviors. Problem-solving behaviors include being receptive to alternatives, recognizing details of the environment (which are seemingly unrelated but which may provide clues for solving the problem), experimenting with different ways of putting objects and ideas together, and ordering consecutive acts. These behaviors augment the child's repertoire of responses which, in turn, increase the probability of problem solution (Sylva, Bruner, and Genova, 1976).

Relevant to the importance of play in establishing life-long patterns of satisfaction and enjoyment is the report made by Erikson (cited in Bruner _et al._, 1976) of the results of a 30 year follow-up study of children showing "that the ones with the most interesting and fulfilling lives were the ones who had managed to keep a sense of playfulness at the centre of things" (p. 17).

The commonly proclaimed motto, "The family that plays together stays together," is evidence that the role of play in enhancing family life has been recognized by the American public. A healthy functioning family is often characterized as one which plays and has fun together (Sutton-Smith & Sutton-Smith, 1974). Although there is no published research that directly tests this notion, it has been shown that playfulness between parents and their child promotes feelings of trust (Erikson, 1968; Ohlson, 1976), affection, and intimacy (Ohlson, 1976), all of which strengthen family bonds and encourage a cooperative spirit between parents and children.

Since play has been shown to be vital to children's attainment of their full potentiality, why is it then that so many adults continue to view playing at worst as a waste of time, or at least as something to do after the more "notable" aspects of life have been taken care of? Several responses to this question are offered in the following paragraphs.

Some adults assume that play develops naturally; that is, all children play and all achieve the same level of ability to play without help or instruction. Other adults assume that children learn something through play and whatever is not learned naturally in play will be acquired through formal instruction at school. The former notion has been questioned by Herron and Sutton-Smith (1971), who suggest that symbolism (important for language development) does not develop spontaneously. Rather, it needs adult modelling and suggestion (Smilansky, 1968). The second belief has been refuted by Pavenstedt (1967) and Murphy (1972) whose studies were mentioned earlier in this chapter.

The most likely possibility is that adults, specifically parents, do not know the differential functions of play and how they relate to certain aspects of child development and to family relationships. Because the extent of parents' knowledge of the relationship between play and their children's development is unknown at the present time, it is this question to which the present study is addressed.

Need for the Study

In his parental attitude study, Hereford (1963) found parents' attitudes and their children's behavior to be influenced by parents having knowledge pertaining to child development. Gordon (1975) suggested that parents not only need information about the normal development of children, but also need to understand their roles in their children's development. Because having knowledge of development influences parental attitudes and child behavior, and because play contributes so heavily to all areas of children's development during their early years (Butler, Gotts, & Quisenberry, 1978), it seems important to know if play is an area in which parents need more information and instruction.

A number of persons in the fields of child development and parenting education (e.g., Horowitz & Paden, 1973; Hornsby & Applebaum, 1978) have already assumed that parents do have a need either for more information about the developmental and therapeutic functions of play or for instruction in the techniques with which to play with their infants and young children. Based on their assumptions, programs teaching parents to stimulate their infants through play, and therapies teaching parents to communicate with their children through play have been developed and instituted.

Parenting books (i.e., Sutton-Smith & Sutton-Smith, 1974), pamphlets, and articles describing, in lay language, the merits of play and providing directions for performing play activities with the child have been made available to parents in school and public libraries, doctors' offices, hospitals, and newsstands. Authors of literature such as this have also assumed that parents do not have information in this area and, therefore, need it to become more competent parents.

Yet, at the present time, an objective assessment of whether parents need this information on the functions of play has not been made. The need for these publications and programs is based on the subjective judgments of professionals. Furthermore, evaluations of the impact of such educational and treatment programs on parents and children are based on subjective criteria. An objective instrument measuring what parents presently know about play and its relationship to development could be helpful not only in establishing a need for programs and literature teaching parents to play with their children, but also in evaluating the effects of these efforts.

Therapists working with symptomatic children in dysfunctional families (i.e., families in which, when confronted with change, symptoms are produced in one or more of its members [Satir, 1971]) must frequently make diagnoses and decisions regarding appropriate modes of treatment with insufficient information. Hornsby and Applebaum (1978) suggested that in cases where the diagnosis is adjustment reaction of childhood or that of organic problems or borderline mental retardation, involving parents in play therapy with their children would be an effective approach to treatment. They based their suggestions on assumptions that in the first case parents lack knowledge and skills in child-rearing practices, and in the second case parents could be helped to view their child realistically and develop an appreciation of their children's capabilities.

Knowing whether parents know the value of play and how to use play to prevent further interference in their children's development would assist therapists in deciding whether imparting information about play and development to parents and teaching them play skills would be a beneficial treatment for these children and their families.

The existence of a myriad of parenting programs (Larson, 1972) based on divergent theoretical concepts and even more divergent practices attests to the lack of consistent research findings in parenting education. Criticism of the studies (which are similar in purpose but which often produce contradictory results) is often directed towards investigators' use of unreliable or complex assessment instruments and methods

(Schaefer & Bell, 1958). An objective method of assessing parents' knowledge of the functions of play in their children's development would further investigations of parenting practices and their relationship to development.

Finally, it seems important to answer the question of what parents know about the role of play in their children's development so that direction can be given to the training of teachers, school counselors, family and play therapists, and all others who work with parents and their children. If parents need information about the role of play in development, perhaps it is the responsibility of these professionals to fill that need. Although the training programs of many professionals include experiences in play with children and in counseling and consultation with parents, whether there is a need for instructing students in methods of teaching parents how they might use play to influence their children's development has not been established. Knowing whether parents need assistance in this area would be an important factor in the decision regarding whether or not the training and educational experiences of counselors and teachers should prepare them to work with families in this manner.

Purpose of the Study

The purpose of the study is to initiate the development of an objective measure, in the form of a written test, of the extent of parents' knowledge of the functions of play in their children's development and in family relationships. The instrument is also intended to measure parents' knowledge of their role in play with their child.

The process of developing a test involves several steps. In the present study attention will be given to the basis for inclusion of certain concepts, the construction of test items, and the establishment of test reliability and validity. Although caution has been taken in writing the items for the test used in this study, it is expected that a number of items will require revision after the initial test administration. Therefore, the procedures of the study are also designed to determine the direction of that revision.

Once the test has been refined and administered to a large sample of parents in the standardization process, it will serve several functions. It will discriminate between those parents who have knowledge of play functions and those who do not. It will establish how much parents know about the relationships between play and each of the areas of child development (i.e., cognition, social skills, personality, and physiology), and even more definitively, how much they know about the type of play activity that effectively aids children's mastery of a specific developmental task.

Nature of the Instrument

The Parental Knowledge of Children's Play Questionnaire (referred to hereafter as the PKPQ) consists of items based on theories of child development and on the relationship of play to the areas of cognitive, social, personality, and physiological development. Many of the statements were designed to assess parents' knowledge of the influence of a specific kind of play activity (e.g., gentle tactile play, "rough and tumble" play, or group games with rules) on the child's mastery of a specific developmental task, such as trust, initiative, or autonomy.

Other items were stated more generally to measure knowledge of the relationship between a kind of play activity and a general area of development, such as the relationship between parent-infant play and acquisition of cognition.

The theoretical concepts upon which the items of the instrument are based were chosen on the basis of their having three common attributes. Primary consideration was given to those concepts most frequently discussed in the literature which relate to play and child development since it is that relationship which is the substance of the present investigation. The concepts' relevance to parental involvement in play with their children was also a factor in their selection inasmuch as one intention of the instrument is to measure parents' knowledge of their role in their children's play.

Related to the parents' role is the final element determining whether certain concepts should be included. Parents significantly influence their children's development whether or not they are aware of the manner in which they do so (White, 1977). Also, parents can learn methods to promote their children's progression through the developmental stages and their growth into healthy individuals (Gordon, 1975; Hereford, 1963), as well as to intervene therapeutically to prevent interference in that development (Guerney, 1964; Hornsby & Applebaum, 1978; Jernberg, 1979). Concepts involving modes of playing and of therapeutic intervention thought to be within the competency of most parents were, thus, included in the instrument while those involving therapeutic treatments which require professional training for their effectiveness were left out. Decisions regarding the abilities of parents were made by the present investigator and derived from her personal and professional experiences with parents.

The questionnaire will be administered to a large sample of parents having at least one child younger than the age of eight years. The sample will include both mothers and fathers whose age, race, and level of educational attainment typify those parents in a normal population of American parents. Parents of "only" children as well as parents of two or more children, and parents living in rural as well as urban locations will be represented in the sample.

Implications of the Study

The importance of parents having information pertaining to the functions of play in their child's development and in family relationships seems indisputable. As previously stated, play between parent and infant is paramount in defining the direction of the child's growth. Family play is the means by which bonding and communication are established among family members.

Of course, many parents play with their children just for the pleasure of the activity and the togetherness. However, it is not known whether parents who play frequently with their child and enjoy that play know how to use play effectively to guide their child's development and to prevent interference in their child's progression through the developmental stages. Methods which assess attitudes toward play and willingness to play could be used in conjunction with an assessment of parents' knowledge to answer this question. Correlating differing characteristics of parents and of their families with the extent of their knowledge might provide clues to an understanding of how parents gain that knowledge.

Research has shown that active parental participation in intervention programs designed by professionals to enhance the child's learning ability or change the child's behavior is necessary for the program's success, whatever the theoretical orientation of the program may be (Honig, 1975). Recently, interest in teaching parents to stimulate their infant through play has grown among professionals (Gordon, 1975; Horowitz & Paden, 1973). Some therapists (e.g., Guerney, 1964; Hornsby & Applebaum, 1978; Jernberg, 1979; Ohlson, 1976) have included both parent and child in play therapy sessions. Sutton-Smith and Sutton-Smith (1974) have suggested that teaching parents how to engage in play has more long term effects on children than teaching children.

Establishing that parents need information and training in the area of play to facilitate their children's development would lend support for providing training to counselors, teachers, and others who work with children and their families for teaching parents about play and how to use it to stimulate their children's development.

An instrument such as the one proposed in this study might be used to measure the amount of knowledge parents had gained through a training program or a therapeutic experience. It could serve as an objective aid in the teacher's or therapist's decision concerning the parents' readiness and competency to perform the developmental and therapeutic functions of play with their child without further professional assistance. By differentiating between parents who do have a knowledge of play and development and those who do not have that knowledge, the instrument could be used to determine which parents should be included in a training program and which should not be included.

The ability of the instrument to discriminate between those functions of play of which most parents have knowledge and those of which most parents do not have knowledge would make it possible to design new programs that impart information and teach skills only in the areas in which most parents have a deficiency. Analyzing test responses of a specific parent would more individually define the direction of that parent's training.

This author has observed through experience with families that an attitude of playfulness is present in some families and missing in others. Whether playfulness is a characteristic of a healthy functioning family has not been empirically demonstrated, but discovery of a relationship between the two would have implications for family theory and practice.

If it can be shown that playfulness improves family functioning, professionals will want to know how to foster playfulness in families where it is absent. An instrument assessing parents' knowledge of play would be useful in determining if a family attitude of playfulness relates to parents being knowledgeable about play. Finding such a relationship would lend support for encouraging playfulness among family members and teaching play skills in family therapy sessions as a way of heightening family functioning.

In summary, the implications of the development of an objective instrument which assesses parental knowledge of children's play are that such an instrument would be valuable in promoting the therapeutic interventions of family and play therapists, teachers, and school counselors in both the areas of prevention and treatment, and in promoting researchers' investigations of factors affecting children's development. It would be useful in establishing a need for courses in which parents are taught how to play with their children, and in determining the specific content of those courses and the parents who should be included as participants.

Research Questions and Hypotheses

> The methods employed in this study will attempt to answer the following research questions: Can a valid measure of parental knowledge of the role of play in children's development be developed? Can a reliable measure of parental knowledge of the role of play in children's development be developed?
>
> In order to help establish the construct validity of the PKPQ, hypotheses having to do with differences found among test scores of parents differing on certain parental and familial characteristics will be tested. The hypotheses are elaborated in the following paragraphs.

Sex of Parents

Many of the studies reported in the literature investigating differences in child-rearing patterns of parents include the sex of parents as a factor on which to observe differences. These studies (e.g., Ban & Lewis, 1974; Lamb, 1977) bear out the generally accepted belief that mothers and fathers do interact dissimilarly with their children. Because of the existence of these differences, it is thought that mothers and fathers will respond differently to the items of the questionnaire.

Since mothers more often than fathers engage in "mothering" activities during the child's earliest years, they are likely to possess greater knowledge of developmental stages and tasks and also of the processes by which children master these tasks and progress through the stages of development. Therefore, in this study, it is assumed that mothers will receive higher scores on the PKPQ than fathers.

Age of Parents

Studies (e.g., Sears, Maccoby, & Levin, 1957; Epstein, Note 1) reflecting the age of parents as a factor affecting their attitudes and behavior towards their children suggest that young mothers tend to be harsher in the treatment of their children and less knowledgeable about their children's development and about their own role in that development than older mothers. These findings lead to the assumption that young parents will score lower on the PKPQ than older parents.

Educational Level of Parents

The attitudes of parents who are better educated have been found to be different from those of parents possessing less education (Schaefer & Bell, 1958). These attitudes vary particularly with respect towards their children's behavior. Better educated parents are less restrictive of their children's behavior. Based on the assumption that less restrictive parents are likely to encourage their children's playfulness and engage in that play themselves, it is believed that better educated parents will obtain higher scores on the PKPQ than less educated parents.

Sex of Child

The findings of studies (e.g., Moss, 1967; Sears *et al.*, 1957) related to the differential treatment of children based on their sex demonstrate that parents do have different expectations for boys and girls and, therefore, treat them differently. These findings suggest that parents are likely to discriminate between the kinds of play which they encourage and participate in with their sons and daughters.

Parents having both male and female children, consequently, are likely to have a wider range of experiences in play than parents having only all female or all male children. This leads to the assumption that parents whose families are comprised of both boys and girls will score higher on the questionnaire of this study than parents whose children are all the same sex.

Family Size

The number of children in a family appears to decidedly influence the time parents have for playing with their children (Sears et al., 1957). Since engaging in play provides opportunities for parents to observe and learn more about their children and the world in which they live (Ohlson, 1976), it follows that parents who play often have a greater knowledge of the role of play in their children's development. Hence, parents having one or two children in their families are assumed to score higher on the PKPQ than parents having larger families.

Definition of Terms

Terms used in this chapter and those following have been defined here to provide for the reader's ease of reference. Included are those used frequently in this study and whose meanings are thought to be indigenous to play or child development theorists. Additionally, terms which have been re-named to insure a seventh grade readability level on the instrument of this study have been defined. Less frequently used words or phrases have been defined or explained through examples in the text of this study.

bonding--the process of uniting two persons in a warm, intimate, and continuous relationship in which each is highly valued by the other, and both derive satisfaction and enjoyment (Bowlby, 1965). Bonding and attachment formation are used synonomously in the present study.

fantasy play--play in which children re-enact events and reconstruct things employing their imaginations in the actual performance of the activity. Children assume the role of another person, an animal, or an object, mimicking the behaviors associated with that role. Real objects may or may not be used but when they are, they often take on meanings different from those in reality (e.g., blocks become buildings, sticks become guns, dolls become babies in the child's play). This activity is a form of symbolic or representational play in which the child encodes experiences in symbols (Piaget, 1962). Its attribute of reduced consequences of behavior differentiates it from reality. It is frequently called "make-believe" or "pretend" play.

games with rules--systematic activities involving a set of fixed guidelines governing the manner in which these activities are to be performed. The attainment of a game's goal is insured by compliance to these implicit and explicit regulations. The activities are both competitive and cooperative in nature, and although they are usually played by two or more persons, they can be played by one person who competes with himself in mastering skills and self-control.

gentle physical play--a dyadic activity that involves soft touching, caressing, fondling, and rocking with frequent eye-to-eye non-verbal interaction. It is descriptive of the interactional process between a mother and her infant, but it is not limited to that relationship. It is tactually stimulating and engaged in primarily for the pleasure of both partners; however, it serves the function of uniting two persons emotionally.

group glee--Sherman's (1975) observations of nursery school children led him to characterize group glee as "joyful screaming, laughing, and intense physical acts which occurred in simultaneous bursts or which spread in a contagious fashion from one child to another" (p. 53).

mother-infant play--reciprocal dyadic activities characterized by gentle and loving sensory stimulation which is enjoyed by both partners and strengthens emotional ties between the two (Blehar, Lieberman, & Ainsworth, 1977). Although the term "mother-infant" play is used most frequently in this study, a mother substitute can satisfactorily fill the role of the infant's partner (Brody, Fenderson, & Stephenson, Note 2). This adult is usually referred to, in the literature, as the primary care-giver, a person who consistently "mothers" the child (Bowlby, 1965).

play--"play consists of behaviors and behavioral sequences that are organism dominated rather than stimulus dominated, behaviors that appear to be intrinsically motivated and apparently performed for 'their own sake' and that are conducted with relative relaxation and positive affect" (Weisler & McCall, 1976, p. 494).

play "fighting"--an activity of a "rough and tumble" variety. It is mock aggression with the intent being playful rather than of doing harm. Those who engage in play "fighting" have been observed to assume a "play" face during this activity (Suomi & Harlow, 1976).

playfulness--traits of physical, cognitive, and social spontaneity, manifest joy, and a sense of humor (Lieberman, 1977).

"rough and tumble" play--a high level of activity in the form of action patterns usually carried out by two or more persons (Owen, 1975). Large bodily movements such as jumping, swinging, chasing, dancing, rolling on the floor, and play "wrestling" and "fighting" accompanied by loud exclamations (laughter, giggling, shouting) characterize this kind of play behavior. It is sometimes referred to as "rough housing."

sensory-motor play--the response of infants and young children to things and events outside themselves. The activities of this type of play can be subdivided into exploring, manipulating (i.e., acting on an object), and practice or repetitive play (Millar, 1974).

spontaneous or free play--play which occurs at the volition of the player. Its self-expressive and self-initiatory nature presupposes that the players themselves determine the direction, intensity, and duration of the activity.

CHAPTER II

REVIEW OF RELATED LITERATURE

The majority of literature reviewed for the present study is that which is concerned with the manner in which children progress through the various stages of development. Since the role of play in development is the focus of the instrument of this study, it is, more specifically, the literature surrounding the concepts underlying the relationship between play and development which is presented here. The purpose for including such literature is to demonstrate that concepts chosen to be included on the PKPQ are an adequate sample of the theories of play and development.

Additionally, the literature relating to some of the factors thought to influence parents' child-rearing practices is also presented as a means of determining the construct validity of the instrument. This will be accomplished by comparing scores obtained from parents differing on certain parental and familial characteristics with the findings of other studies in this area.

It is assumed that parental participation in play with children is necessary for children's healthy development, and this view is implied throughout the literature reported in this section.

The General Functions of Play

The concepts reflected in the item contents of the instrument of this study are drawn from theories of child development and play, especially those which give attention to the formation of attachment and the establishment of family bonds. Play and development are so closely interwoven in the literature that one hardly speaks of one without also mentioning its affiliation with the other.

Speculations on the functions of play have been made by both psychoanalytic and child development theorists. Freud and Waelder (cited in Peller, 1978) assumed that through play the child comes to terms with a traumatic experience. Peller (1978) added that "a child plays because his play supports fantasies which give him pleasure, or imagery which compensates for keenly felt limitations, anxieties, and deprivations" (p. 135).

In a review of the literature on play as developmental, Weisler and McCall (1976) abstracted from various theories the following three functions of play:

1) In play the child can effect and control activities he or she is unable to execute or dominate in other contexts.
2) Through play the process of detachment of infant from mother is hastened.
3) During the course of play the child learns cause and effect.

Child Development and Play

The major areas of child development are cognitive, social, personality, and physiological development. Although a child does not always develop at the same rate in all areas, in many instances the mastery of a developmental task affects the development of the child in more than one area. For example, mastering an understanding of object relations has implications for the child's social, cognitive, and personality development (Des Lauriers, 1962; Frank, 1957).

Although exclusiveness is not implied, the developmental concepts mentioned in this study have been assigned to one of the areas of development for purposes of simplification (see Figure 1). Judgments regarding the area to which concepts are most related have been made on the basis of a review of the literature. The method of verifying the accuracy of each judgment is explained in the following chapter.

Cognitive Development and Play

Acquisition of Knowledge. The ability to learn is, in part, dependent upon the formation of attachment between the infant and its primary care-giver. The literature supporting this concept and the role of play in establishing and strengthening attachment was discussed in the preceding chapter of this study. The findings of Murphy's (1972) study are presented in the following paragraph to describe more fully how children's cognitive abilities are hindered when children are deprived of play.

Murphy found that children who lived in disorganized, overcrowded, ghetto apartments and who were extremely deprived did not achieve new integrations or impose new structures on materials of the environment, and did not project sequences which involve making a plan and carrying it out. He concluded the following:

> it seems that not just elementary care, but active mutual mother-baby play is a prerequisite for the development of the cognitive structuring which can carry play beyond primary sensorymotor stages to a goal-directed symbolic and constructive stage. (p. 126)

Piaget (1972) stated that "in order for a child to understand something, he must construct it himself, he must reinvent it" (p. 27).

	Item(s)
I. Functions of Play in Cognitive Development	
A. Acquisition of cognition	2, 10, 12, 19, 27
B. Establishment of reality	36, 41
C. Learning of cause and effect relationships	16, 23, 42
D. Assimilation of experiences	17
E. Acquisition of problem-solving skills	4, 7, 8, 15, 20, 26, 32, 33, 34, 44, 48
II. Functions of Play in Social Development	
A. Fluency with social rules and conventions	11, 18, 24, 29, 39
B. Attainment of self-control	37, 43, 49
C. Establishment of relationships with others	1, 13, 14, 21, 38
D. Development of communication skills	3, 28, 40
E. Integration of new situations	5, 9, 35
III. Functions of Play in Personality Development	
A. Assimilation of incomprehensible or overwhelming events	31, 46, 50
B. Process of individuation	22, 45
C. Development of initiative	6, 47
D. Manifestation of self-esteem	25
IV. Functions of Play in Physiological Development	
A. Development of efficient functioning of bodily organs and systems	46
B. Development of sleep patterns	30

FIGURE I

OUTLINE OF THE FUNCTIONS OF PLAY IN CHILD DEVELOPMENT

Piaget believed that construction and reinvention are carried out in play. His theory of the purposefulness of play was expanded upon by Stamm (1976), who proposed that it is through play that knowledge about the world is assimilated and skills needed to learn and know about the world are mastered.

Other authors (e.g., Frank, 1957; Rutter, 1972) have attested to the importance of early tactile stimulation for guiding the child's future learning, and to the detrimental effects on cognitive growth when such experience is missing.

Elardo, Bradley, and Caldwell (1975) studied the relationship between home environment and mental test performance. Two scales of the Inventory of Home Stimulation (the emotional and verbal response of the mother and the maternal involvement with the child), used in their study, apply to the way in which parents act towards their children. Using the Bayley Scales of Infant Development at the ages of six and 12 months and the Stanford-Binet scale at 36 months, the investigators found a positive relationship between IQ and homes in which the mother encouraged developmental advances by talking to, looking at, positively responding to, and attending to the child.

Dunn (cited in Schaffer, 1977) also found that frequent verbal behavior and acceptance in response to the child's vocalizations on the part of mothers correlated with IQ. Montagu (1978) mentioned a study by Klaus and Kennell in which infants who had early contact with their mothers were found to have higher IQs at the age of three and one-half years than those who were deprived of that contact.

El'Konin (1971) wrote that the development of speech is accompanied by the development of symbolism. It seems that, in play, the child acquires an understanding of words as being representative of objects. This important function of play is further supported by Humphrey (cited in Sutton-Smith, 1971) who found that games incorporating verbal and number cues in their rules promote learning more than training from conventional workbook procedures.

Contributing to the maintenance of cognitive gains is the active involvement of parents in the child's learning process. Writing about the success of early child care programs, Honig (1975) made the following assertion:

> Failure to "maintain" cognitive gains where parent involvement was minimal or nonsystematic has been found regardless of the theoretical orientation or curricular format of the program. (p. 10)

Finally, in relation to parental involvement, Kahl (1953) and Parsons (1959) both suggested that when achievement motivation is not promoted by parents, it is difficult to establish that motivation in children.

Establishment of reality. The experience of reality, which requires that individuals be able to separate themselves from other objects and persons, is acquired through mother-baby play. During such activity, children discover their bodies to be limited in space and differentiated from those things outside their bodily boundaries (Des Lauriers, 1962). Thus, reality is established through the mutual touching involved in mother-infant play (Montagu, 1978). Ortega (1957) added the following statement in support of this concept: "touch and contact are necessarily the most conclusive factors in determining the structure of our world" (p. 72).

Engaging in symbolic play provides the child opportunities to explore boundaries between fantasy and reality (Bruner & Sherwood, 1976). From the first game of "Peek-A-Boo" to more advanced levels of representational play, the child's awareness of reality is extended (Stamm, 1976), and boundaries are established (Butler _et al._, 1978).

Learning of cause and effect relationships. In the less threatening climate of free play, resulting from the diminutive effects of behavior, children are encouraged to test and extend the immediate consequences of behavior (Bruner, 1976). Garvey (1977), Millar (1974), Piaget (1962), and Weisler and McCall (1976) explained that testing limits and extending consequences of behavior (which involve repetition and slight variation of motions) are the ways in which cause and effect relationships are learned. Recall infants who, in spontaneous play, drop their heads forward by small increments, seeming almost to jiggle. Sometimes they move their heads the same distance at the same speed. Other times they move them farther and at varying rates of speed. They discover that they can see their toes if they tilt their heads to a certain degree, but if they tilt their heads much farther, their necks hurt and their chests get in the way of their chins, preventing further movement in this direction. By this set of behaviors, children test the limits of their actions and discover new relationships. Repetition of actions provides evidence to support children's conclusions, and slight variations and their repetition expand their theories.

Piaget's theory of intellectual development has been summarized by Peill (1975) in the following:

> The child develops by making hypotheses which are then shown to be inappropriate; conflicts occur between two hypotheses and between a hypothesis and external events. The child progresses by making mistakes. (p. 18)

Piaget (1972) believed that hypotheses are tested through construction and reinvention of things and events in play. Construction and reinvention are forms of imaginative or fantasy play. Adding to the evidence that learning does take place in fantasy play are the findings in separate studies by Fink (1976) and Golomb and Cornelius (1977) that new cognitive structures are often products of such play.

Assimilation of experiences. That experiences which at their occurrence in reality may be beyond the child's capacity for accommodation is supported by Waelder's description of fantasy play "'as a method of . . . assimilating piecemeal an experience which was too large to be assimilated instantly at one swoop'" (cited in Klinger, 1969, p. 292). An experience is dissected into manageable parts which are repeatedly played out in fantasy until they can be integrated into the child's repertoire of previous experiences.

An example of this method of understanding and accommodating an overwhelming event is the five year old child who was present when his parents discovered their infant to be a victim of "Sudden Infant Death Syndrome." In the presence of this author and with the assistance of two young comrades, the child acted out the sequences of his mother entering the baby's room, lifting the baby out of his crib, feeling the baby's dead weight and lack of response, and screaming hysterically for the baby's father. The five year old child repeated this scene in fantasy play with such frequency and intensity that to an onlooker, it appeared obsessional. That the acting out did not begin until a year after the infant's death attests to the fact that the event encompassed too much new material to fit into the child's present scheme of cognitions.

Although there is a great deal of emotional content in the preceding example, here the intent is to show that fantasy play generates new cognitive meanings which bring about the child's understanding and assimilation of the experience. In a later section of this chapter fantasy's role in overcoming emotional difficulties will be addressed.

Acquisition of problem-solving skills. Piaget's (1962) position that symbolic play promotes objectivity in working and thinking habits is supported by the results of a study of children's tool and apparatus use. Sylva *et al*. (1976) found that children who played before attempting a problem-solving task were more goal-directed and successful at the task than those who had not had a prior play experience. The authors concluded that because play reduces frustration, children are free to notice details of the environment which might be crucial to the problem's solution, and they can persist in the activity over a long period of time.

Sylva *et al*. proposed that in the process of problem-solving, the ordering of the constituent acts involved is facilitated by play in which exploration of alternative combinations occurs. Exploration and practice at assembling objects and behavior in different ways are possible only when the stress of goal-attainment is reduced, as it is in spontaneous play (Bruner, 1976).

Exploration is also encouraged by the proximity of the child's parents. In an experimental study of the exploratory behavior of 30 preschool children, Hutt (1976) noted differences in children's patterns of initial approach towards the object used in the experiment. She concluded that the presence of an adult in the room appears to make children more adventurous and less cautious of a new situation.

King (cited in Bruner, 1976) also observed this difference in behavior when mothers (in particular) are present. Harlow and Suomi's (1970) notable experiments with young monkeys led them to conclude similarly that the emotional security provided by mothers allows the infant to explore novelty.

Children's playfulness has been shown to relate to their development of creative behavior. In a study conducted by Lieberman (1977), the more playful kindergartners were found to do better on divergent thinking tasks, to have a greater fluency of ideas, and to have more originality and flexibility than unplayful kindergartners. The results of Dansky and Silverman's (1976) study of children and tool use led them to conclude that having opportunity to play with a new tool, prior to using it to solve a problem, increases the child's fluency in the number of alternative uses for the tool. Wallach and Kogan (1965) stated that this increase in the number of uses, gained through play, leads to the probability of more creative responses.

Smilansky's (1968) study of play-deprived children accentuated the major role parents play in the child's development of creativity. Her findings imply that adult modelling and suggestion are necessary for expansion of the child's imagination.

Lieberman (1977) proposed that children learn playfulness from the playful attitudes modelled by their parents. She further said that a necessary condition for being playful with their children is parents' contentment with their parenting role. Clay (cited in Montagu, 1978) substantiated the role of parents in the development of babies' abilities to play. He found babies' playful behaviors to be contingent on mothers' rewards for those behaviors.

The co-authors (Sutton-Smith & Sutton-Smith, 1974) of the book, How to Play with your Children (and when not to), encourage playfulness in parents because of its value in producing versatile children, that is, children who are creative and flexible. The findings of Wallach and Kogan (1965) suggest that a home in which playfulness is encouraged facilitates the child's manifestation of creativity. The supposition of these authors that versatility is linked to playfulness concurs with Erikson's observation from his longitudinal studies (see Chapter I of the present study) that possession of a playful attitude is related to the attainment of an interesting and fulfilling life.

Whether the child gains something from the experience of playing with his parents depends upon the manner in which parents join into the activity. In an observational study of mothers and three to six year olds playing together, Bishop (cited in Millar, 1974) learned of a relationship existing between the mother's direct interference, control, and criticism of her child's play and the uncooperativeness of the child and the inhibition of play. Bishop further found these child behaviors to be generalized to playing with other adults.

Ohlson's (1976) experiences of including parents with their children in play therapy sessions led to his observation that when parents assume an authoritarian role in the play between themselves and their child, the spontaneous play which promotes the child's self-expression is hindered.

It is not to be inferred that, in playing with their children, parents are not to make suggestions or assume any other than a passive role. As Smilansky (1968) and El'Konin (cited in Herron and Sutton-Smith, 1971) found, parental suggestion, modelling, and direction have an important place in play between parent and child. The parent's role is a delicate and changeable one, and the manner in which parents play with their children is critical in determining whether the play experience is successful. Just as suggestion may increase children's ideas about how to play or to use a new tool or toy, it may also curtail experimentation and discovery of other possibilities which may be more creative than those ideas of parents.

Social Development and Play

Fluency with social rules and conventions. Shantz (cited in Damon, 1977) described current theoretical models as portraying the child as "actively contructing his social knowledge out of an interaction between his own unique experience in the world and his own conceptual abilities and limitations" (p. 6). The notion that social knowledge (i.e., socializing skills necessary to function effectively within society) is developed in play finds agreement between Bruner (1976) and Ohlson (1974). These authors described play as a modality through which the child becomes acquainted and acquires fluency with social rules and conventions.

Piaget's (cited in Hunt, 1961) conviction that the child's capacity to share points of view in social interaction is developed through group games is supported by Eifermann (1971). That cooperation is encouraged in group games requiring the child to act in effective coordination with others is also agreed upon by these same authors. Support for Eifermann's view that group games promote the child's ability to follow directions comes from Butler *et al*. (1978). The explanation for this is in the games requiring the child's attention to verbal and non-verbal cues and commands in order for the game playing to be sustained. Thus, the pleasure derived from the game playing provides motivation for following directions.

Garvey (1977) expressed the idea that group glee promotes the child's willingness to cooperate with a group. Although group glee occasionally threatened formal lessons (in Sherman's [1975] observations of preschoolers), 70 percent of the incidents happening during those lessons were not disruptive. Further, Sherman believes that they may have played a role in sustaining task involvement and eagerness for lessons.

"Rough and tumble" play, often accompanying group glee, produces a great deal of excitement, laughter, giggling, and hilarity. These activities represent expressions of the pleasure of being and having fun together (Garvey, 1977). That the attractiveness of the group, whether it be of family members of classmates, is increased by these agreeable experiences is unquestionable. Cartwright and Zander (1960) summarized the results of an investigation in which Schachter, Ellertson, McBride, and Gregory found that attraction to the group or "cohesiveness heightens the susceptibility of group members to influence from other members" (p. 92). It follows that if the family or the classroom group of children and teacher are attractive to the child, the child is highly likely to follow their lead in being cooperative.

Attainment of self-control. In the development of behavioral controls, Butler *et al*. (1978) argued that play "enables children to act out some of the frustrations they feel in learning to accept limitations on their behavior. And, it provides the arena in which children begin to exercise self-control" (p. 81). That group games promote self-control is demonstrated in studies cited by Sutton-Smith (1971) of Gump and Sutton-Smith and of Redl in which social improvement was observed in children who played games requiring the exercise of a variety of self-controls.

The importance of partaking in "rough and tumble" play and play "fighting" is reflected in the hundreds of observations made by Suomi and Harlow (1976) of monkeys with and without opportunity to play. The investigators place high value on the role of these kinds of active play in promoting the development of control over the intensity and target of aggressive behavior. The implication of Jones' (1976) observations of nursery school children that children who do not engage in "rough and tumble" play may carry their aggressiveness of playfulness to extremes agrees with Harlow and Suomi's observations.

The position of Bruner (1976) that in play children learn what is socially acceptable is further elaborated by Weisler and McCall (1976). They stated that in play the child realizes the consequences of his behavior. With the opportunity "rough and tumble" play and play "fighting" provide for setting limits and establishing logical consequences for the child's behavior, parental engagement in these activities offers the parent a setting for teaching the child self-control and a means for helping the child redirect aggressive feelings.

Establishment of relationships with others. It is apparent from the literature that the development of relationships with others is dependent upon children's having attained some degree of individuation from their parents (Ainsworth, 1973; Bowlby, 1965), having acquired a sense of trust (Erikson, 1968) and of worthiness (Montagu, 1978), and having learned the process of loving and caring for others (Harlow & Suomi, 1970; Mason, cited in Montagu, 1978).

Theoretical support for the position that play facilitates the mastery of three of these developmental tasks is presented in the following paragraphs; however, a discussion of the process of individuation is left to a later section of this literature review.

Montagu's book, Touching: The Human Significance of the Skin (1978), is an eloquent tribute to human touch and its importance in all areas of development and life. The gist of his writing is that the touching, cuddling, caressing, fondling, and rocking that are characteristic of reciprocal infant-mother play and contact give children the feeling they are wanted and prized as being special. Montagu reasoned that being valued in this initial interpersonal relationship makes it possible for children to risk establishing intimate relationships with others.

Just as the feeling of being valued is a condition for children's willingness to relate in an intimate manner with others, so is the ability to trust others. Through the same gentle physical play described by Montagu, children discover their needs for stimulation and pleasure as well as those for physical comfort will be satisfied by their parents. This realization leads them to develop a sense of trust long before any verbal expression of these feelings is possible (Erikson, 1968).

Related to trust and being valued is Garvey's (1977) claim that children's play experiences with their parents, when those experiences have been satisfying ones, prepare them to engage in relationships which may be less satisfying and even stormy, such as playing with irritable or uncooperative playmates. Parents who are cooperative in play with their children not only model behavior appropriate to that situation, but also give the assurance that more rewarding relationships are possible.

Another ingredient contributing to the ability to establish relationships with others is the ability to love and care for others. Both Frank (1957) and Rutter (1972) concur in their belief that people learn how to demonstrate loving and caring feelings through their experiences of affection and intimacy in mutual mother-baby play. Empirical support for their belief comes from the non-human primate studies of Mason (cited in Montagu, 1978) and of Harlow and Suomi (1970) who found that infants without the experiences of a mother's warm, tender, and loving care were unable in later life to act in an affectionate and caring manner.

Montagu (1978) described adults who have been deprived of early tactile experience as being physically, psychologically, and behaviorally awkward in encounters with others. This lack of tact (i.e., the ability to do and say the proper thing) is testimony to the importance of early tactile stimulation (such as is present in mother-infant play) in children's later social behavior.

Development of communication skills. According to Garvey (1977), the beginnings of a well-developed communication system are rooted in the eye-contact shared by infants and their parents. This notion is supported by Joan Erikson whose "Eye to Eye" essay is quoted, in part, in Piers (1972).

> We begin life with this relatedness to eyes . . . It is with the eyes that (maternal) concern and love are communicated, and distance and anger as well. Growing maturity does not alter this eye-centeredness, for all through life our visual intercourse with others is eye-focused. (p. 134)

Communication also takes place in play. Erikson (1972) said that play satisfies the child's need to communicate, and Stern's (1974) position that the goal of children's early playful gestures is interaction is supportive of this concept.

Other authors support the belief that interaction and expression of feeling not only occur in play, but are also advanced in play. Butler _et al_. (1978) described children as experiencing a variety of emotions in the different roles they assume in play. In the beginning these emotions are experienced and expressed nonverbally. Later, names are put on the emotions. From observations of children in Developmental Play Therapy programs, Brody _et al_. (Note 2) noted that children who were not verbally expressive of their feelings became more so after engaging in the symbolic play activities of the program. These observations lend credence to Bruner's (1976) supposition that the emotions aroused by play and the mastery of skills during play give rise to the child's linguistic development.

Integration of new situations. Because of children's limited experiences, all new situations (though they may not be traumatic) require certain adaptive responses from them. In his article discussing the functions of imaginative behavior, Klinger (1969) proposed that integration of new situations, objects, and events is facilitated through fantasy play. He based his assumption on the work of Schachtel (cited in Klinger, 1979) who emphasized the importance of repetitive play in the accomplishment of this task.

It seems logical that merely telling children what may happen during an anticipated event may allay some of their fears; however, as Klinger inferred from Schachtel's writing, it is through repeated fantasy play that children take the step from relying on cognitions they have acquired in past experiences to generating new cognitions that will enable them to cope effectively with new situations. (An example of how repeated fantasy play leads to a greater understanding of an event is given in the section, Cognitive Development and Play.)

Adjustment to new situations, particularly those of an emergency nature were investigated by Owen (1975) in a somewhat different light. He was particularly interested in "rough and tumble" play and play "fighting" activities and found that these activities contribute to children's development of emergency skills. Emergency skills refer not only to protection and defense against attack, but also to rapid and orderly organization and coordination of thought and action. These skills, too, enhance children's abilities to cope with and become comfortable with the new situations they encounter.

The findings of Hutt and Bhavnani (1976) of difficulties in personality and social adjustment in girls who had failed to explore in play in early childhood seem also to be related to children's abilities to adjust to new or difficult situations. In their study, the investigators reexamined children who had been classified as non-explorers, explorers, or inventive explorers when they were three to five years of age. At the ages of seven to 10 years, the children were given a personality questionnaire (Porter and Cattell) and rated by their teachers and parents on personality traits and behavioral characteristics. Although Hutt and Bhavnani did not specify exactly which personality or behavioral characteristics were found to be different between the groups of exploring and non-exploring girls, it seems likely that the non-explorers would be deficient in the skills and confidence essential to risk entrance into new social situations.

Personality Development and Play

Assimilation of incomprehensible or overwhelming events. The prominent role of fantasy play in personality development is expressed in the following quotation of Griffiths: "phantasy or imagination provides the normal means for the solution of problems of development in early childhood" (cited in Klinger, 1969, p. 292). Griffiths' (1970) more recent studies led her to draw the more specific conclusion that fantasy is the method by which children overcome emotional difficulties. Others (e.g., Fink, 1976; Golomb & Cornelius, 1977; Peller, 1978) concur with Griffiths' belief that limitations, anxieties, and deprivations are offset by the playing out in fantasy of wishful thoughts and incomprehensible events.

Rather than making it more difficult to accept reality, repetitive fantasy play of anxieties and specific fears furthers children's effective management of them. Evidence of the truth of this concept is furnished in the writings of Erikson (1972), Millar (1974), and Stamm (1976). Repeating an event which the child hopes will occur, or one which has some traumatic value for the child, not only increases the child's understanding of the event, but also reduces the emotional effect of the event's occurrence on the child.

The value of encouraging children in a rich fantasy life is stressed by Griffiths (1970) who takes the position that the conclusions worked out by children themselves facilitate their final adjustment. If this is so, Griffiths believes interpretations of problems or situations to children hinder this adjustment. Children's conclusions are drawn from their ideas of what might happen, what they might think, and how they might feel and act in the situation. Being deprived of an opportunity to test out their ideas in play, no matter how bizarre they appear to be to adults, retards children's abilities to get in charge of the thoughts and emotions aroused by the event.

Sutton-Smith and Sutton-Smith (1974) further explained the manner in which children use fantasy to overcome a fear. The authors stated that at times children react to an earlier danger by taking the role of the thing (i.e., animal, person, instrument, etc.) that frightened them. If parents assume their children's original reaction of fear in a make-believe play situation, their presence insures a safe climate and provides a means by which children can become powerful, not only in that particular play situation, but also in overcoming the fear. In bringing about extinction of anxiety and fear through controlled repetition of events in make-believe play, the importance of the parent's presence is also acknowledged by both Klinger (1969) and Millar (1974).

The effects of tactile stimulation on the baby's personality formation are explained by Frank (1957). He views tactile stimulation as being required in times of acute distress for recovery of well-being. Without this soothing touch, accomplished through patting and rocking, children may develop lasting inappropriate emotional or affective responses to the world. Inappropriate responses, such as disturbed tactile behavior, were observed by Shevrin and Toussung (cited in Montagu, 1978) in juvenile mental patients. Their experiences with these young people led them to believe that extreme amounts of tactile stimulation (either too little or too much) produce conflicts which interfere with personality development.

As part of the rationale for instituting a Developmental Play Therapy Program for emotionally disturbed children, Brody (1978) mentioned research relating criminal behavior to the lack of a nurturing, touching, parent-child relationship. The play therapy program which Brody advocated is one which concentrates on establishing that relationship through dyadic play activities. Brody assumes this relationship to be missing from the children's earlier experiences and to be necessary for their development of healthy personalities.

Individuation. The importance of individuation (i.e., the unfolding of the child into a person separate from the body, mind, and emotions of his parents) for the child's development of a healthy personality is acknowledged by a number of writers who studied the relation between a child's early experiences and the formation of personality (e.g., Bowlby, 1965; Erikson, 1968; Montagu, 1978).

In their review of literature, Weisler and McCall (1976) listed detachment from mother as being one of the three functions of play for which there is most agreement among child development specialists. Erikson (1968) also agreed that play encourages a sense of autonomy.

Reference was made earlier to the importance of play in binding infant to mother. Ainsworth (1973) and Bowlby (1965) both found that this bonding process (also referred to as attachment formation) must be accomplished before the child can individuate.

How these two processes of attachment and separation act concurrently was explained by Des Lauriers (1967). In the same interactional process between infant and mother which promotes attachment between them, children define their bodily boundaries and experience themselves as separate from their mothers. Individuation is initiated in children's first recognitions of their bodies as being limited in space and alienated from their mothers' bodies. They discover that something outside themselves arouses their senses. It is the intrusive sensory stimulation mothers provide by touching, caressing, cuddling, and rocking their infants which brings children to the realization that they are separate from others.

Also related to the process of individuation is Lieberman's (1977) conclusion from the data of the investigations of Corter, Rheingold, and Eckerman and those of Ross, Rheingold, and Eckerman that a necessary condition for the development of play patterns is the mother's letting go of the child. The implication is that in order for play between parent and child to continue, there must be tacit agreement on the part of both regarding the child's being a separate and autonomous being.

Initiative. Jones' (1976) attention to "rough and tumble" play in young children led him to propose the age of three years to be the end of the critical period for developing "rough and tumble" play. The implication of his proposition is that children who do not learn how to play in this manner may compensate for this inability by becoming well-developed verbally while those who do learn to "rough and tumble" may become persons who are actively involved in doing things, that is, persons who initiate activity.

Further support for play's role in the development of initiative comes from Bruner and Sherwood's (1976) intensive study of the socializing power of the infant-mother game of "Peek-A-Boo." Their study of six infant-mother pairs over a 10 month period led to the observation that by fifteen months of age children had revised the format of the game and had taken the role of initiator rather than recipient. Prior to that age, the children often instigated the engagement of their mothers in that game, which is evidence that the pure joy inherent in the play process of "Peek-A-Boo" encourages initiative.

Manifestation of self-esteem. Evidence that one's ability to touch others correlates positively with self-esteem was found in the laboratory experiments of Silverman, Pressman, and Bartel (1973). Analyses of the 80 male and female subjects' responses to the task of communicating emotions to each other nonverbally showed that the higher the subject's self-esteem (as measured by Pederson's semantic differential inventory), the more intimate the person was in communicating through touch. Additionally, the high self-esteem subjects found the task easier and perceived communication as being transmitted more clearly than did the low self-esteem subjects.

Attention to the literature connecting tactile experience in early childhood to a person's later tactile behavior has previously been given. The literature documenting the existence of this relationship and the findings of Silverman, Pressman, and Bartel permit an extrapolation to the existence of a relationship between self-esteem and early tactile experience which again gives emphasis to the role of mother-baby play in the child's personality development.

Physiological Development and Play

Development of efficient functioning of bodily organs and systems. High regard for the contributions of rocking to the child's physiological development was given by Montagu (1978). His conviction that rocking increases cardiac output, promotes respiration, stimulates muscle tone, and develops efficient functioning of the gastrointestinal tract finds some direct support in research findings and even more support from deductions made through authoritative experience.

The results of the following two studies cited in Montagu give empirical weight to the concept that rocking and physiological development are closely allied. The effects of rocking on two to three month premature infants were investigated by Neal. The rocked infants were found to be significantly more advanced in the development of tracking behavior to visual and auditory stimulation, head lifting, crawling, muscle tone, strength of grasping and weight gain than those infants who were not rocked. Woodcock's findings that rocked babies had decreased heart rates and acceleration responses led him to suggest the possibility of increased maturational development in babies who are rocked.

Montagu also mentioned the opinion of an early writer in the field of infant care, Zahovsky, who in 1934 was dismayed with the prevalent trend toward regimenting babies' lives and away from "spoiling" them with rocking. Zahovsky's experiences with young infants led him to believe that the occurrence of colic and intestinal spasm was reduced by rocking the infant after a feeding.

Research has substantiated what has been observed and felt through personal and professional experiences such as those of Montagu and Zahovsky; hence, the direction of today's trend is toward including rocking chairs in hospital nurseries and encouraging new mothers to rock their infants.

Sleep patterns. Montagu (1978) also made a case for the existence of a relationship between rocking in infancy and the development of later sleep patterns. He cited the investigations of Anna Freud, and Heinicke and Westheimer to uphold his view. The inference to be drawn from their works is that a person's inability to fall asleep, or remain asleep, may be the effect of interference in mothering activities, which includes rocking, in the individual's early life.

Factors Affecting Test Scores

To further their research on child-rearing practices and attitudes, investigators have studied characteristics of parents and families which are thought to influence parents' treatment of their children. Those characteristics often selected for investigation are sex, age, and level of educational attainment of parents, sex of child, and size of family.

It is believed these same factors may affect parents' test scores in the present study. Therefore, test scores of parents are compared with the findings of other studies reported in the literature as one method of determining the construct validity of the test.

The following is a discussion of the literature reporting investigations of the relationship of parental and familial characteristics to parents' treatment of their children. Although no studies directly relating to factors influencing parental knowledge of play and only a few relating to the manner in which parents play with their children could be found in the literature, those which have some bearing on parents' beliefs about the value of play or about teaching techniques which involve play activities are presented here. Also included are studies which investigate differences in parents' interactions with their children.

Sex of Parent

The majority of the studies reflecting differences in the manner in which children are treated by their parents are those which investigate such differences between mothers and fathers. Parental sex differences in behavior toward the child have led researchers to believe that fathers and mothers contribute in different ways to their children's development.

Lamb's (1977) study of parent-infant interactions provides evidence that differential experiences for infants are involved in mother-infant and father-infant relationships. Lamb noted that mothers most often held their babies to perform caregiving activities while fathers most often held their babies to play with them.

Of further interest is his finding that a decrease in the frequency of the mother's holding of an older baby for caregiving activities was not accompanied by an increase in her holding the baby for play. This finding suggests that as the child becomes older and the mother spends less time in caregiving functions, she does not use that freed time to play with her child. Lamb implied that playing with the baby seems to be more the father's responsibility, but he did not state whether that remains constant when the child becomes older.

Ban and Lewis (1974) also observed differences in mothers' and fathers' interactions with their infants. They found that mothers received more proximal contact (i.e., physical closeness and touching) from their infants, while fathers received more distal contact (i.e., looking behavior). The findings of these investigators suggest, too, that differences exist in the manner in which mothers and fathers interact with their children, and that these differences may be important for determining the direction of the child's growth.

In a study of the effects of parental belief systems on children's cognitive abilities, McGillicuddy-DeLisi, Sigel, and Johnson (1979) found that mothers preferred distancing strategies (behaviors through which children acquire representational thinking) more than fathers. Fathers preferred directive and authoritative statements more than mothers. Representational thinking has been shown in an earlier section of this chapter to be learned through fantasy play. Since McGillicuddy-DeLisi _et al_. found that mothers use this method of teaching and management more often than fathers, it can be assumed they more often engage in fantasy play through which representational thinking is learned.

On the other hand, Cohen and Campos (1974) reported that fathers play "rough and tumble" games which their wives do not engage in with their children. The important role of this activity in social and personality development has also been shown earlier in this chapter. Thus, part of the father's role in his child's development may be in promoting the acquisition of certain personality and social traits through "rough and tumble" play.

In Stolz's (1967) study of influences on parenting beliefs, interviews with mothers and fathers revealed that both believed it is the parents' responsibility to educate their children. They responded somewhat similarly when asked how valuable they thought play to be for their child's development. Although an analysis of responses was not made on the single variable of parental sex, mothers with more education and fathers of higher social class stressed beliefs concerned with play values. The indications are that some fathers and some mothers value play highly while others do not, and differences due to sex which might exist are not noticeable when other variables are also considered.

The present author has observed that mothers more often than fathers participate in parenting and child development classes (e.g., of the 31 students in the Human Development course who participated in the initial stage of this study, all were female). This would lead to the assumptions that mothers are more involved in their children's development and are, therefore, more likely to seek out information on development through formal classes, literature, their child's pediatrician and teachers, as well as through other mothers.

Stolz's findings that fathers believe they are responsible for the child's education would seem to disqualify these assumptions; however, the manner in which fathers perceive their role in educating their children is not expressed in Stolz's interviews. Perhaps fathers believe they should oversee rather than participate in the educational process; that is, they should insure that the child is educated, but leave the actual teaching to mothers and school teachers.

Whether this is the case is not known; nevertheless, until recently, fathers have had less access to gaining knowledge of child development and less opportunity to observe their children in play than mothers. Therefore, it is assumed that fathers do not have as much knowledge as mothers about the relationship of play to development.

Age of Parent

The two studies reported in the following paragraphs are those which included only mothers in their samples. Since the role of fathers in their child's development has only recently received much interest in the literature, relatively few studies report descriptive characteristics of fathers.

The studies mentioned here lead to the assumption that the age of parents, specifically mothers, does have an influence on their knowledge of child development and their child-rearing practices. Epstein (Note 1) found that young mothers were inaccurate in their perceptions of their child's development while Sears et al. (1957) found that younger mothers were inclined to be more severe in the treatment of their young children.

The data of Sears et al. were collected by means of interviews with 379 American mothers. Their purposes were to investigate child-rearing practices and the effects of different practices on children's behavior. The findings of the study suggest that younger mothers are likely to be more irritable; that is, they are quick to punish, more likely to quarrel with their husbands, and more likely to express underlying hostility. The investigators believe their findings are contrary to the popular belief that young adults are more relaxed in parenting than slightly older or middle-aged adults.

The teenage mothers in Epstein's sample (98 women between the ages of 14 and 19 years) were found to attribute cognitive, social, and language skills to infants at many months later in their development than when these abilities actually emerge. Videotapes of mothers and their six month old infants during caregiving activities at home revealed that the mothers cared for the physical needs of the infants but neither played with nor talked to the children.

Epstein's findings that teenage mothers underestimate children's abilities and do not attend to children's needs related to cognitive and social growth, and the findings of Sears et al. that young mothers tend to treat their children harshly lead to the assumptions that young mothers have little knowledge of the role of play in their child's development nor participate frequently and freely in play with their child. Generalizing to fathers the assumptions about mothers would lead to the supposition that young fathers, too, have little knowledge of the relationship between play and development.

Educational Level of Parent

The practice of reporting educational level as a factor in determining socio-economic class makes partialling out the influence of education on parental treatment of children difficult. The following studies are exceptions to this practice.

In their article describing the development of a parent attitude inventory, Schaefer and Bell (1958) mentioned a study in which the findings indicated a significant difference in the educational levels of parents of problem and non-problem children. In their own study, Schaefer and Bell found that "mothers of the lower educational levels tend to have less approved attitudes toward children" (p. 353). However, they stated that variations in attitude should not be attributed merely to differences in educational level.

In their study, reported earlier in this section, Sears *et al.* (1957) found that, holding social class constant, better educated mothers were different from less educated mothers with respect to some child-rearing practices and attitudes. Related to the present study are better educated mothers' tendencies to be less restrictive about manners, neatness, and treatment of property, less insistent upon male/female sex roles and behavior, and more permissive of children's dependency.

Lieberman (1977) believes that parents who permit their children to display cross-sex and relatively uninhibited behavior and are more accepting and approving of their children's behavior are likely to encourage their children's playfulness and even engage in play with their children. Therefore, it is assumed that better educated parents will have more knowledge of play and development than less educated parents.

Sex of Child

Because of differing social roles and behavior expected of men and women traditionally and because parents' beliefs about their children influence their treatment of them (Sigel, McGillicuddy-DeLisi, & Johnson, 1977), it is likely that parents behave differently towards their daughters and sons.

Two-thirds of the parents in Stolz's (1967) study said they believed differences in specific areas of behavior exist between boys and girls. Those parents who mentioned how they adjusted their behavior to the sex of the child emphasized the greater freedom given to a boy and the more overt expression of affection given to a girl.

These attitudes may be derived from parents' earliest experiences with their infants, and may be related to Moss's (1967) findings in his investigation of the determinants of mother-infant interaction. The male infant subjects were more irritable during the study and responded less to maternal interventions (i.e., attempts to soothe them) than the female subjects. Eventually, mothers gave up trying to soothe them by rocking, holding, and patting them, and more often ignored them when they cried. It logically follows that if mothers give up trying to comfort their sons by usual "mothering" behavior, their sons will be freer to find other means of satisfying their needs.

On the other hand, the female infants in Moss's study responded more favorably to their mother's interventions and were calmed by "mothering" activities. This led to mothers continuing their behavior whenever the girls cried. Considering that the manner in which children acquire the ability to be affectionate and caring is through the experience of being loved and cared for, it is likely that as the reciprocal parent-daughter interaction grows, it becomes one in which expression of affection is typical.

These findings have implications for other differences in later treatment of boys and girls. Frey and Slaby (Note 3) suggested that the behavioral characteristics of children as well as the sex of children influence adults' treatment of children. However, it may be that behavioral characteristics of older children are formed from their differential treatment in infancy due to sex differences.

Although isolating reasons for the emergence of discriminate treatment according to sex is difficult, its occurrence has been documented by many researchers. Sears _et al_. (1957) found that parents encouraged aggression in boys and were warmer toward their infant girls. Frey and Slaby found in classroom observations that boys received both more praise and more criticism than girls who were given less attention, either positive or negative in nature.

In a study investigating the accuracy with which adults perceive children's cognitive abilities, Miller, White, and Delgado (in press) found that, although adults generally deemphasized sex differences in mastery of concepts, they perceived greater sex differences on developmental tasks as the level of those tasks became more difficult.

From this evidence, it is concluded that adults have different expectations for boys and girls and, accordingly, play with them in different ways. In the present study, it is expected that parents having both male and female children will have a wider range of play experiences and, consequently, a greater knowledge of the role of play in their children's development than parents having either all male or all female children.

Family Size

The number of children in the family would seem to influence parental knowledge of development and play in both positive and negative directions. It is likely that parents of large families have more opportunity to observe and vicariously participate in children's growth through play. However, the added responsibilities of caring for several children are likely to reduce the amount of time parents spend engrossed in play with their children.

The findings of Sears et al. (1957) that mothers of large families have less time to play with their children, and the findings of McGillicuddy-DeLisi et al. (1979) that distancing strategies were the type of communication more often preferred by parents of "only" children than by parents of three-child families indicate that parents of large families are likely to participate less frequently in play with their children, particularly with respect to those play activities in which distancing strategies are employed.

These findings and those with respect to parent-child play being a means by which parents learn how the child develops (reported earlier in this section) would lead to the conclusion the parents of large families possess less knowledge of the functions of play in their children's development than parents of small families.

Summary of Literature Review

The concepts of which parental knowledge is to be assessed by the instrument of this study are supported by the literature as being a representative sample of the theories which are generally accepted by writers and investigators in the fields of child development, psychology, and education.

The literature with respect to child development emphasizes the crucial role of play in children's social, cognitive, personality, and physiological growth. The deleterious effects on all areas of development resulting from the absence of an attachment relationship between child and parents, and of adult modelling and encouragement of playfulness are demonstrated in studies of children deprived of those experiences.

Parental contributions to children's development of play patterns are manifold. By holding positive attitudes and approving of their children's playful activities, parents encourage the frequency of those activities. By participating in play with their children, parents become aware of their children's levels of development and are able to set realistic expectations for them. By knowing which play activities promote mastery of certain developmental tasks, parents facilitate their children's accomplishment of those tasks and reduce the likelihood of interference in their children's developmental processes.

In studies reflecting parental and familial characteristics which influence parents' child-rearing practices, the age, sex, and level of educational attainment of parents as well as the sex of their children, and the size of their family are found to be among the factors affecting the manner in which children are treated by their parents. It is assumed that these factors also influence the level of knowledge parents possess with respect to the relationship between play and children's development.

CHAPTER III

METHODOLOGY

Overview of Method

The methods of establishing the validity and reliability of the PKPQ as a measure of parents' knowledge of the functions of play in children's development are presented in this chapter. Additional analyses are also described.

The instrument is assumed to be a valid assessment instrument if, in this study, it is able to discriminate between parents who have a knowledge of the relationship between play and development and those who do not, if the items of the instrument are an adequate sample of the developmental concepts considered most important in the literature, and if the items measure concepts within the area of development which they purport to measure. Additionally, if scores obtained from parents differing on certain characteristics are compatible with the findings of other studies with respect to those differences, the instrument of this study is regarded as being valid.

The extent of parents' knowledge of the functions of play is thought to be stable over time so long as interventions such as child development and parenting courses or literature are not effected. Therefore, the measurements derived from the PKPQ are regarded as reliable to the extent that scores obtained from a second administration of the questionnaire agree with those obtained from an earlier administration of the same form. Since the PKPQ is intended to measure only one area of parental competency, determining consistency among test items is another means of demonstrating the reliability of scores obtained from the questionnaire.

The intent of this study is to define the directions of revisions in the present form of the PKPQ; therefore, point biserial correlations were computed between each item and total scores. As a result of these item analyses, attention is given in the final chapter of this study to those items having low correlations with total scores since they indicate ambiguity in the wording of items.

The PKPQ is an objective test requiring True-False responses; therefore, scorer reliability was expected to be high. To insure scoring accuracy, responses were scored independently by both the present investigator and a disinterested party.

The initial steps taken in constructing items for the PKPQ and in finalizing the instrument for use in the present study are explained in the appendices attached to this proposal. Appendix A is an outline of the preliminary procedures followed in the development of the instrument. Appendix B is a listing of the specific concepts and the number of the item in which knowledge of each concept is measured.

The method employed to insure a seventh grade readability level for the test items is explained in Appendix C. The procedures followed in the preliminary testing of the questionnaire and changes resulting from this testing are provided in Appendix D, and succeeded by a copy of the PKPQ form used in that testing (see Appendix E). Appendix F is a copy of the revised form of the PKPQ used in the present study. The remaining appendices are explained in later sections of this chapter.

Subjects

The participants in this study were parents having at least one child younger than eight years old enrolled in a private or public elementary school or preschool center in Alachua County, Florida. The decision to include only parents having children ranging from infancy to age seven was based on the meaningfulness of the concepts underlying the items of the instrument for this group of parents.

Alachua County has both an urban population, centered in the city of Gainesville, and a rural population whose major economic resources are derived from farming and cattle raising. Alachua County, located in the north central part of Florida, has a population of 138,376 (based on April, 1979, statistics). The white to ethnic minority ratio is approximately 9:2 (based on a population of 139,962 in July, 1978).

Gainesville is an urban community with a population of 80,239 (based on April, 1979, statistics). The University of Florida, a state funded school, is located there with a student body of over 30,751 (according to winter, 1980, preliminary figures). Because of the university and a large medical facility, Gainesville has a high academic and professional orientation and attracts small industries and businesses. Unlike many cities in Florida, it has neither an unusually high ratio of Senior Citizens nor seasonal residents.

Families in Newberry, Florida, were also included in the sample to represent the agricultural interest of the rural areas in Alachua County. Newberry is located 17 miles west of Gainesville with a population in 1979 of 1583. Although it is primarily a "farming and ranching community," some of its residents are employed at the two small industries which lie within the city limits or commute to places of employment in Gainesville.

The schools from which the sample was drawn are representative of those available to residents of Alachua County. The variables considered to be important to insure a representative sample were cost to parents, size of enrollment, and religious education orientation.

The four schools chosen for the study include two which are privately owned and financed by fees from parents whose children attend the schools. One of these has an enrollment of 28 children, all between the ages of three and five years. The other, which includes children of preschool age through grade twelve, has an enrollment of 258 children younger than the age of eight years. Religion classes are a part of the curricula of this school. The other two schools are publicly funded elementary schools. One is located in Newberry and the other in Gainesville. Their kindergarten through second grade enrollments are respectively, 187 and 342 children.

Procedures

Administration

The procedures followed to elicit the cooperation of the four schools selected for distribution of the PKPQ are explained in Appendix G. Appendix H is a copy of the letter sent to the principal or director of each of the schools included in the sample.

Copies of the revised form of the PKPQ were disseminated by classroom teachers to children whose ages were appropriate for the study, with instructions for delivering the questionnaires to their parents.

Instructions for distributing questionnaires to children (see Appendix I) were attached to each teacher's packet of questionnaires. Teachers were given two questionnaires for each child enrolled in their classrooms. Accompanying each questionnaire was a cover letter to parents briefly explaining the purpose of the study, the voluntary and anonymous nature of participation, and the intended use of the results (see Appendix J).

The total number of children receiving questionnaires through the schools was 815. Of these children, school records show that 423 (52%) were boys and 392 (48%) were girls, and 630 (77%) were whites and 285 (23%) were of ethnic minority groups. There were 140 (17%) children of preschool age (i.e., ages three and four years), 238 (29%) of kindergarten age, 221 (27%) of first grade age, and 216 (27%) of second grade age.

Since two questionnaires (i.e., one for mother and one for father) were given to each of the 815 children included in the sample, the total number of questionnaires distributed was 1630. The total number of parents in the sample was not as great as the number of questionnaires distributed for the following reasons: 1) a number of children were from single-parent families in which there is little or no contact with one of the parents; therefore, those parents were unavailable to complete questionnaires, and 2) some parents had more than one child enrolled in the classes included in the sample. Although these parents received duplicate questionnaires, they were requested in the cover letter to complete only one per parent.

Even though the method of distributing two questionnaires to each child yielded an inaccurate account of the number of parents in the sample, it simplified the distribution procedures, thereby, reducing the likelihood of error in those procedures. It also alleviated for teachers the burden of distribution by eliminating the need to identify, in the distribution process, children who were from single families and children who had siblings in classrooms included in the sample.

Those parents participating in the study completed questionnaires in their homes and returned them either by having their children place them in a manila envelope in the classroom or by mailing them directly to the investigator in an envelope attached to each questionnaire. Four days after distribution, the completed questionnaires were collected by the investigator from the participating schools. A return rate of 200 was established as being an acceptable sample for this study. The resulting sample was 270.

Reliability

Stability. To establish the extent of the PKPQ's ability to assess parental knowledge of play and development consistently over time, the same form of the questionnaire was administered twice to a group of 35 persons with a one month interval between administrations.

The retest sample was comprised of persons who were thought to match the large sample of this study on the characteristics of age, sex, level of educational attainment, size of family, and age and sex of children. The retest sample included persons living in both Gainesville and Newberry, the two communities of the larger sample.

Procedures for distributing questionnaires to the retest group were somewhat different from those for the larger sample. Questionnaires were mailed or handed personally by the investigator to parents in the retest sample rather than by teachers to children. Retest subjects were instructed to return the completed forms by mail to the investigator rather than to the schools.

Since anonymity was given to the larger sample, retest subjects were asked to identify their form only by writing the last four digits of their Social Security number on the form. Subjects were also told that their participation involved one other task to be conducted later. The first testing took place one month in advance of that of the larger sample and the retest was scheduled to coincide with the distribution of questionnaires to parents through the schools.

From the data collected from the retest sample, a Pearson product-moment correlation coefficient was calculated for total scores to estimate reliability of the PKPQ. So that subscales measuring parental knowledge of a specific type of play or area of development can be developed following the conclusion of the present study, establishing each item's stability is necessary. For that reason, phi coefficients were calculated to establish the consistency of responses to each item on the first and second administrations of the questionnaire.

Internal consistency. To establish the extent to which items of the PKPQ measure a specific area of parental knowledge, intercorrelations among items on questionnaires received from the larger sample of this study were computed using the Kuder-Richardson formula 20.

Validity

Content validity. The literature with respect to the role of play in child development was presented in the preceding chapter to support the selection of items included in the PKPQ as a sample of the theoretical concepts underlying the relationship between play and development.

Construct validity. To establish the degree to which the PKPQ measures knowledge of the theoretical concepts from which the items were generated, three methods were employed.

In the first of these, a group of 20 persons having professional training and experience in conducting play therapy and counseling with young children judged each item's relevancy for the four areas of children's development (i.e., cognitive, social, personality, and physiological development). This evaluation was made prior to administration of the questionnaire to the larger sample. Appendix K is a copy of the form used by the judges.

The percentage of an item's being assigned to one of the four areas of development was calculated and the agreement criterion of 70 percent was set (i.e., those items receiving 70 percent or greater agreement are to be retained in the instrument; those receiving less than 70 percent are to be revised).

The second method employed to determine the construct validity of the PKPQ was that of comparing scores of "experts" in the fields of child development and psychology with those of the larger sample. The PKPQ was administered to the same group of 20 persons who classified the items by area of development. The mean scores of the expert group and the larger sample were compared by means of the t statistic to determine if differences significant at the .05 level exist between the two groups.

The third method of establishing construct validity involved comparing the results of the data analyses obtained from the PKPQ with research findings related to the influence on child-rearing practices of age, sex, level of educational attainment of parents, sex of children, and size of families to determine the extent of their agreement.

It is assumed that the existence of differences between the expert group and the larger sample, and confirmation of agreement among the judges and between the research findings presented in the preceding chapter and scores obtained on the PKPQ demonstrate that performance on the questionnaire is related to having knowledge of the role of play in development.

Data Analyses

Questionnaires which were completed and returned to the investigator by mail or through the schools were included in the statistical analyses.

Analyses of the data included calculations of test-retest reliabilities for each item and for total scores, an internal consistency reliability coefficient, and percentages of agreement for assignment of items to categories of development. Statistical analyses further involved testing for significant differences between mean scores of the expert group and the larger sample, and between mean scores of subjects differing on the characteristics of age, sex, level of educational attainment, sex of children and size of family. A demographic profile was also analyzed to determine the validity of the sampling procedure. The criterion for evaluating statistical significance was an alpha level of .05.

Potential Limitations

The procedures for obtaining a sample and for administering the questionnaire as well as the construction of items are discussed as potential limitations of this study.

The manner in which the PKPQ was distributed to parents involved a number of persons who were likely to differ in their handling of the task. Teachers who place a high value on parental involvement or on play, or who have an interest in the results of the study, were likely to elicit more cooperation from the children in their classrooms and their parents. The potential difficulty lay in a low rate of return in some classrooms, resulting in an inadequate sample. To reduce the likelihood of an insufficient sample, the investigator selected schools where she was familiar with the teachers or someone who was influential with the teachers. It was believed that this factor increased teacher interest and improved the rate of questionnaire return.

The voluntary nature of the questionnaire made it likely that some parents would complete and return the questionnaire while others would not, possibly resulting in a biased sample. However, the nature of the study necessitated that volunteers be used.

It is believed that correctly responding to the items of the questionnaire requires a sophisticated level of knowledge, and the discriminating ability of the questionnaire would not be significantly impaired by a sample possibly biased in the direction of having knowledge. Demographic variables of the resulting sample were analyzed to determine the representativeness in terms of the participating schools' populations. The generalizability of the findings of this study to the general population is reflected in this information.

Because administration of the test was done outside a standardized situation, factors such as time and the general and specific characteristics of the subjects could not be controlled. Power, rather than speed, is the important component being measured by the instrument, and so, the length of time subjects were given for completing the questionnaire is of little concern.

In a controlled situation, such as one which might be used for testing a group prior to a parenting course or to family therapy, parents would be likely to score higher on the instrument because, by their attendance, they have to some degree committed themselves to increasing their parenting competency and are attuned to the nature of the instrument. For this reason, it is assumed that the uncontrolled conditions of the administration were a potential source of error, but that the effect of the error did not interfere with the purpose of this study.

The purpose of the study defines many of its limitations since that intent is to initiate the development of an instrument rather than to finalize its development. It was expected that some items of the questionnaire would be shown to be unreliable and invalid measures of parental knowledge. Therefore, normative data resulting from the present study are not interpreted as being conclusive, but rather as giving direction for further investigation.

CHAPTER IV

RESULTS

The results of the data analyses are discussed in this chapter. The following topics are included in this discussion: resulting sample, in which a description of respondents' characteristics is reported, and results, in which the reliability, validity, and item analyses of the instrument are reported. Analytic tables accompany the discussion of each topical area.

Resulting Sample

Characteristics of Respondents

Two hundred seventy persons from the school sample returned completed questionnaires. Of these, 177 (66%) were female and 91 (34%) were male, and 229 (85%) were Caucasian and 39 (15%) were of ethnic minority origin. All respondents had at least one child whose age was less than eight years. For the resulting sample, children's ages ranged from two weeks to 18 years. The mean number of years of education for the group of respondents was 14.27. Nineteen (8%) of the respondents reporting educational level had not completed high school, 75 (32%) were high school graduates only, and 143 (59%) had at least one year of education beyond high school. This last figure includes 41 (17%) respondents having some graduate or professional school education.

The Caucasian to ethnic minority ratio for the resulting sample was slightly higher in favor of Caucasians than the 9:2 ratio reported for the population of Alachua County. Although the mean educational level of the population is unknown, it is expected to be less than that of the resulting sample. The mean age of parents returning questionnaires (32.05) is comparable to that of parents in a general population having preschool and elementary school age children. The mean size of families in the resulting sample (2.15 children) is also representative of the general population of Alachua County.

A demographic profile of the numbers, means, standard deviations, modes, medians, ranges, and extremes of the age, educational level, and size of families of the resulting sample is given in Table 1. Tables 2 through 7 provide frequencies and percentages for various groupings within the resulting sample. The frequencies of respondents by sex and ethnic origin are shown in Table 2. Frequencies for the respondents' number of years of school completed are given in Table 3. Table 4 gives respondents' frequencies for educational level and ethnic origin, and Table 5 for educational level and sex. Frequencies for the number of children in the respondents' families are shown in Table 6, and frequencies for the sex of the respondents' children are shown in Table 7.

Proportionally, the number of completed questionnaires returned through the four schools were comparable.

Results

Possible scores on the PKPQ range from 0-50. Scores were based on the number of correct responses to the items. The mean score of the resulting school sample was 34.69 with a standard deviation of 7.89.

TABLE 1

DEMOGRAPHIC PROFILE OF RESPONDENTS IN SCHOOL SAMPLE

	Number	Mean	SD	Mode	Median	Range	Extremes
Age	268	32.05	5.96	32	32	44	19-48
Education	237	14.27	2.81	12	12	14	7-21
Size of Family	270	2.15	1.04	2	2	7	1-8

TABLE 2

RESPONDENTS BY SEX AND ETHNIC ORIGIN

	Caucasian	Ethnic Minority	Row Totals
Males	81[a] 30.22[b] 89.01[c]	10 3.73 10.99	91 33.95 100.00
Females	148 55.22 83.62	29 10.82 16.38	177 66.04 100.00
Column Totals	229 85.45	39 14.55	268[d] 100.00

[a] Number of respondents

[b] Percentage of total respondents

[c] Percentage of sex group

[d] Information regarding race was omitted by 2 respondents.

TABLE 3

RESPONDENTS BY LEVEL OF EDUCATIONAL ATTAINMENT

Years of School Completed	Frequency	Cumulative Frequency	Percentage	Cumulative Percentage
7	1	1	0.42	0.42
8	2	3	0.84	1.27
9	4	7	1.69	2.95
10	5	12	2.11	5.06
11	7	19	2.95	8.02
12	75	94	31.65	39.66
13	14	108	5.91	45.57
14	25	133	10.55	56.12
15	9	142	3.80	59.92
16	54	196	22.78	82.70
17	7	203	2.95	85.65
18	20	223	8.44	94.09
19	2	225	0.84	94.94
20	3	228	1.27	96.20
21	9	237[a]	3.80	100.00

[a] Information regarding educational level was omitted by 33 respondents.

TABLE 4

RESPONDENTS BY EDUCATIONAL LEVEL AND ETHNIC ORIGIN

Years of School Completed	Caucasian	Ethnic Minority	Row Totals
7	0[a] 0.00[b] 0.00[c]	1 0.42 100.00	1 0.42 100.00
8	2 0.85 100.00	0 0.00 0.00	2 0.85 100.00
9	2 0.85 50.00	2 0.85 50.00	4 1.69 100.00
10	3 1.27 60.00	2 0.85 40.00	5 2.12 100.00
11	3 1.27 42.86	4 1.69 57.14	7 2.97 100.00
12	57 24.15 76.00	18 7.63 24.00	75 31.78 100.00
13	13 5.51 92.86	1 0.42 7.14	14 5.93 100.00
14	23 9.75 92.00	2 0.85 8.00	25 10.59 100.00
15	9 3.81 100.00	0 0.00 0.00	9 3.81 100.00
16	50 21.19 94.34	3 1.27 5.66	53 22.46 100.00
17	7 2.97 100.00	0 0.00 0.00	7 2.97 100.00

Table 4-continued

Years of School Completed	Caucasian	Ethnic Minority	Row Totals
18	20	0	20
	8.47	0.00	8.47
	100.00	0.00	100.00
19	2	0	2
	0.85	0.00	0.85
	100.00	0.00	100.00
20	3	0	3
	1.27	0.00	1.27
	100.00	0.00	100.00
21	3	0	3
	1.27	0.00	1.27
	100.00	0.00	100.00
Column Totals	203	33	236[d]
	86.02	13.98	100.00

[a] Number of respondents

[b] Percentage of total respondents

[c] Percentage of grade level group

[d] Information regarding level of education was omitted by twenty-six caucasians and by six repondents of ethnic minority origins. Information regarding ethnic origin was omitted by one respondent who reported having completed sixteen years of school.

TABLE 5

RESPONDENTS BY EDUCATIONAL LEVEL AND SEX

Years of School Completed	Male	Female	Row Totals
7	0 [a] 0.00[b] 0.00[c]	1 0.42 100.00	1 0.42 100.00
8	0 0.00 0.00	2 0.84 100.00	2 0.84 100.00
9	0 0.00 0.00	4 1.69 100.00	4 1.69 100.00
10	1 0.42 20.00	4 1.69 80.00	5 2.11 100.00
11	3 1.27 42.86	4 1.69 57.14	7 2.95 100.00
12	18 7.59 24.00	57 24.05 76.00	75 31.65 100.00
13	5 2.11 35.71	9 3.80 64.29	14 5.91 100.00
14	4 1.69 16.00	21 8.86 84.00	25 10.55 100.00
15	1 0.42 11.11	8 3.38 88.89	9 3.80 100.00
16	20 8.44 37.04	34 14.35 62.96	54 22.78 100.00

Table 5-continued

Years of School Completed	Male	Female	Row Totals
17	2	5	7
	0.84	2.11	2.95
	28.57	71.43	100.00
18	11	9	20
	4.64	3.80	8.44
	55.00	45.00	100.00
19	2	0	2
	0.84	0.00	0.84
	100.00	0.00	100.00
20	2	1	3
	0.84	0.42	1.27
	66.67	33.33	100.00
21	9	0	9
	3.80	0.00	3.80
	100.00	0.00	100.00
Column Totals	78	159	237[d]
	32.91	67.09	100.00

[a] Number of respondents

[b] Percentage of total respondents

[c] Percentage of grade level group

[d] Information regarding level of education attainment was omitted by 14 male and 19 female respondents.

TABLE 6

RESPONDENTS BY SIZE OF FAMILY

Number Of Children	Frequency	Cumulative Frequency	Percentage	Cumulative Percentage
1	69	69	25.56	25.56
2	135	204	50.00	75.56
3	33	237	12.22	87.78
4	27	264	10.00	97.78
5	4	268	1.48	99.26
6	1	269	0.37	99.63
7	0	269	0.00	99.63
8	1	270	0.37	100.00

Note: Number of Respondents = 270

TABLE 7

RESPONDENTS BY SEX OF CHILDREN

	Frequency	Percentage
All Male Children	84	31.11
All Female Children	68	25.19
Both Male and Female Children	118	43.70

Note: Number of Respondents = 270

Individual scores ranged from 13-49. The mean scores and standard deviations of respondents by sex, race, level of educational attainment, and family size are presented in Table 8.

Reliability

Stability. The PKPQ was administered twice to 35 persons with an interval between testings of at least one month and no longer than six weeks. This group included 20 female and 15 male parents, all having at least one child younger than eight years. Thirty-four persons in the retest group were Caucasian and one person was of ethnic minority origin. The mean age of the group was 34.14, the mean number of years of schooling was 14.82, and the mean number of children per parent was 2.97. The known characteristics of this group approximated those of the school sample except with respect to ethnic origins and size of family. The retest group included fewer persons of ethnic minority origins, and the average number of children per parent was higher than that of the school sample.

The mean scores of this group for both testings are reported in Table 9.

A Pearson product-moment correlation coefficient for total scores of this group was calculated to be +.93 ($p < .05$).

The consistency of responses to individual items on the first and second administrations of the PKPQ to the retest group was determined by the following formula for a phi coefficient:

$$\frac{AD - BC}{\sqrt{(A+B)(C+D)(A+C)(B+D)}}$$

TABLE 8

MEANS AND STANDARD DEVIATIONS OF RESPONDENTS' SCORES BY RESPONDENTS' SEX, RACE, LEVEL OF EDUCATIONAL ATTAINMENT AND SIZE OF FAMILY

		Number Of Respondents	Mean	SD
Sex	Male	92	35.26	7.60
	Female	178	34.40	8.04
Race	Caucasian	229	36.07	7.21
	Ethnic Minority	39	26.95	7.24
Number Of Years Of School Completed	12 or more years	218	35.53	7.70
	less than 12 years	52	31.19	7.74
Family Size	3 or more Children	66	31.92	8.87
	1 or 2 Children	204	35.58	7.34

TABLE 9

MEANS, STANDARD DEVIATIONS, MEDIANS, MODES, AND RANGES OF RETEST GROUP

	Mean	SD	Median	Mode(s)	Range
Test_1	37.03	7.82	39	43	21-48
Test_2	37.51	8.42	38.5	36, 41, 43, 45, 47	21-48

Note: The retest group was comprised of 35 persons.

where

A = number correct responses on both administrations

D = number incorrect responses on both administrations

B = number responses correct on first administration and incorrect on second administration

C = number responses incorrect on first administration and correct on second administration

The phi coefficients for 28 of the 50 items, shown in Table 10, ranged from +.21 to +1.00 with four items receiving less than +.50. Because frequency counts fewer than five appeared in "D" category for 22 items, phi coefficients could not be calculated for these items. As indicated by the proportion of consistent responses on both administrations, also reported in Table 10, the consistency in responding to each of these items was high.

Internal consistency. Computation of the Kuder-Richardson formula 20 on responses to items of questionnaires received from the resulting school sample produced a reliability coefficient of +.88 for internal consistency among items.

Validity

Construct validity. The results of the expert group's classification of questionnaire items by area of development are shown in Table 11. Judges frequently placed items in two or more categories. Because percentages were based on the number of judges (i.e., 20) rather than the number of responses, percentages for most items do not equal 100.

Of the 50 items, 30 received 70% or greater agreement among judges. Although eight more items received 65% agreement in one of the areas of development, three of these also received 45% or greater agreement in another category. The majority (i.e., 7) of the even or near even splits (i.e., items receiving equal or near equal percentages in two categories)

TABLE 10

PROPORTION OF CORRECT, INCORRECT, AND CONSISTENT RESPONSES AND PHI COEFFICIENTS FOR INDIVIDUAL ITEMS

Item Number	Proportion Of Correct Responses On Both Administrations	Proportion Of Incorrect Responses On Both Administrations	Proportion of Consistent Responses On Both Administrations	ϕ
1	.3714	.3714	.7429	.5167
2	.7714	.0571	.8286	
3	.6286	.2571	.8857	.7348
4	.7714	.1143	.8857	
5	.7429	.1429	.8857	.6551
6	.2857	.5714	.8571	.6905
7	.7143	.1429	.8571	.5997
8	.9714	.0000	.9714	
9	.0857	.9143	1.0000	
10	.6286	.2000	.8286	.6102
*11	.5143	.2000	.7143	.4482
12	.7143	.2286	.9429	.8607
13	.8857	.0000	.8857	
*14	.5143	.2000	.7143	.3873
15	.7429	.0857	.8286	
16	.9714	.0000	.9714	
17	.3429	.4857	.8286	.6500
18	.9714	.0000	.9714	
19	.8571	.0571	.9143	
20	.8000	.1429	.9429	.7986
21	.8857	.0286	.9143	
22	.8000	.0857	.8857	
23	.7429	.1714	.9143	.7485
24	.5143	.2571	.7714	.5330
25	.7714	.0571	.8286	
26	.8000	.0857	.8857	
27	.5143	.2857	.8000	.6508

Table 10 - continued

Item Number	Proportion Of Correct Responses On Both Administrations	Proportion of Incorrect Responses On Both Administrations	Proportion of Consistent Responses On Both Administrations	ϕ
28	.9143	.0000	.9143	
29	.8000	.1143	.9143	
30	.4571	.4571	.9143	.8301
31	.8286	.0571	.8857	
32	.4000	.4286	.8286	.6788
33	.8571	.0857	.9429	
34	.2857	.5143	.8000	.5908
35	.5143	.2571	.7714	.5622
36	.8286	.0571	.8857	
37	.8857	.0571	.9429	
38	.5429	.2571	.8000	.5659
39	.6571	.1714	.8286	.5512
40	.9429	.0000	.9429	
41	.6286	.2000	.8286	.5874
42	.8571	.0286	.8857	
43	.8571	.0857	.9429	
44	.8571	.1429	1.0000	1.0000
*45	.5714	.1429	.7143	.3000
46	.5143	.3429	.8571	.7071
47	.7143	.1714	.8857	.6759
48	.3429	.4571	.8000	.6628
*49	.5143	.1429	.6571	.2094
50	.6857	.1714	.8571	.6325

Note: Phi coefficients were calculated to establish the extent of consistency between responses on the first and second administrations of the PKPQ to the retest group.

* Items having phi coefficients of less than +.50.

TABLE 11

PERCENTAGE OF AGREEMENT AMONG JUDGES
CLASSIFYING ITEMS BY AREAS OF DEVELOPMENT

Item Number	Cognitive Development	Social Development	Personality Development	Physiological Development	Total Number Of Responses
1[a]	0	* 90	25	0	23
2	*[b] 95	0	5	0	20
3	5	* 55	55	0	23
4	* 65	20	25	5	23
5	5	* 95	25	5	26
6	0	30	* 80	0	22
7	* 70	25	5	0	20
8	* 35	5	65	0	21
9	25	* 30	60	0	23
10	* 80	25	20	10	27
11	0	* 90	20	0	22
12	* 65	20	35	5	25
13	10	* 60	55	5	26
14	5	* 85	20	0	22
15	* 80	20	5	0	21
16	* 70	5	0	35	22
17	* 80	35	20	5	28
18	85	* 50	5	5	29
19	* 80	25	25	5	27
20	* 55	40	35	15	29
21	0	* 75	50	0	25
22	0	25	* 90	0	23
23	* 100	5	5	0	22
24	15	* 90	10	0	23
25	0	40	* 70	15	25
26	* 60	15	50	0	25
27	* 85	15	5	0	21
28	60	* 40	35	0	27
29	5	* 100	15	5	25

Table 11-continued

Item Number	Cognitive Development	Social Development	Personality Development	Physiological Development	Total Number Of Responses
30	0	0	45	* 60	21
31	30	20	* 65	15	26
32	* 5	55	55	5	24
33	* 15	50	75	10	30
34	* 85	5	5	5	20
35	50	* 10	40	15	23
36	* 40	20	45	0	21
37	5	* 65	50	5	25
38	0	* 85	55	0	28
39	10	* 90	10	0	22
40	15	* 55	55	0	25
41	* 40	25	40	20	25
42	* 80	25	0	0	21
43	10	* 65	45	5	25
44	* 65	20	25	5	23
45	0	25	* 90	0	23
46	45	15	* 30	* 70	32
47	5	30	* 70	0	21
48	* 30	25	70	5	26
49	5	* 65	45	5	24
50	20	25	* 85	0	26

Note: Because of multiple and missing responses, percentages may not equal 100. The responses are those of 20 persons knowledgeable in the fields of child development, psychology, and education.

[a] An underlined item number indicates 70% or greater agreement among judges.

[b] An asterik indicates the area(s) of development to which the item is judged by the investigator to be most related.

occurred between social and personality development; however, four even or near even splits occurred between cognitive and personality development.

The mean score of the expert group (N = 20) was 43.75 with a standard deviation of 5.59. A comparison of the mean scores of this group and the resulting school sample (N= 270) yielded an independent t value of 5.06 ($p < .05$).

An analysis of variance computed for the variables of sex, age, and level of educational attainment of parents, size of family, sex of children, and for all possible two-way interactions among these variables showed significant differences only for the variable of parents' education. The F value for this variable was 49.98 ($p < .05$). Educational level and total score produced a correlation coefficient of +.50 ($p < .05$).

The F values and probabilities associated with all main effects are shown in Table 12.

Item Analysis

Point biserial correlation coefficients (r_{pbis}) computed for each item were all significant at the .05 level. The coefficient and the number of respondents for each item are shown in Table 13. The r_{pbis} ranged from +.14 to +.58 with three items (i.e., #9, #40, and #48) receiving r_{pbis} less than +.20.

Table 14 provides the mean, standard deviation, and proportion of correct responses for each item. The possible range of the item means is from 1.00 to 2.00, with greater means representing more correct responses. For the school sample, the item means range from 1.05 to 1.96. Seven items (i.e., #1, #9, #17, #30, #34, #46, and #48) received means less than 1.50 indicating more incorrect than correct responses for those items.

TABLE 12

RESULTS OF AN ANALYSIS OF VARIANCE OF
PARENTAL AND FAMILIAL CHARACTERISTICS

Variable	F	Probability
Age	0.02	0.8869
Sex	1.19	0.2768
Education	49.98	0.0001
Sex of Children	0.24	0.7891
Number of Children	2.12	0.1465

TABLE 13

POINT BISERIAL CORRELATION COEFFICIENTS FOR INDIVIDUAL ITEMS WITH TOTAL SCORES

Item Number	r^a	Number Of Responses	Item Number	r^a	Number Of Responses
1	.2203	265	26	.2892	268
2	.4183	264	27	.3592	264
3	.4575	268	28	.2465	268
4	.5109	266	29	.4168	264
5	.5616	263	30	.3892	251
6	.2304	260	31	.3062	265
7	.4111	264	32	.2205	261
8	.2601	270	33	.4711	266
9	.1445	266	34	.3411	266
10	.2137	265	35	.2380	261
11	.4079	263	36	.4047	263
12	.4827	266	37	.4068	264
13	.2659	270	38	.4058	264
14	.2827	260	39	.5209	264
15	.4738	261	40	.1757	269
16	.2189	266	41	.4558	256
17	.4336	263	42	.4593	267
18	.2062	270	43	.3205	264
19	.2701	269	44	.5191	264
20	.2493	268	45	.4020	267
21	.3753	265	46	.5833	262
22	.3382	260	47	.3928	259
23	.4207	270	48	.1667	261
24	.4374	261	49	.3892	260
25	.3611	268	50	.4282	265

[a] pbis

TABLE 14

MEANS, STANDARD DEVIATIONS, AND PROPORTION OF CORRECT RESPONSES FOR INDIVIDUAL ITEMS

Item Number	Number Of Respondents	$\overline{X}$	SD	Proportion Of Correct Responses
1	265	1.44	0.50	0.44
2	264	1.70	0.46	0.70
3	268	1.76	0.43	0.76
4	266	1.67	0.47	0.67
5	263	1.79	0.41	0.79
6	260	1.30	0.46	0.30
7	264	1.69	0.46	0.69
8	270	1.92	0.27	0.92
9	266	1.05	0.22	0.05
10	265	1.77	0.42	0.77
11	263	1.53	0.50	0.53
12	266	1.76	0.43	0.76
13	270	1.84	0.37	0.84
14	260	1.59	0.49	0.59
15	261	1.77	0.42	0.77
16	266	1.94	0.23	0.94
17	263	1.37	0.48	0.37
18	270	1.96	0.20	0.96
19	269	1.87	0.34	0.87
20	268	1.71	0.45	0.71
21	265	1.89	0.31	0.89
22	260	1.85	0.35	0.85
23	270	1.71	0.45	0.71
24	261	1.67	0.47	0.67
25	268	1.86	0.35	0.86

Table 14-continued

Item Number	Number Of Respondents	$\overline{X}$	SD	Proportion Of Correct Responses
26	268	1.83	0.37	0.83
27	264	1.61	0.49	0.61
28	268	1.94	0.24	0.94
29	264	1.84	0.37	0.84
30	251	1.36	0.48	0.36
31	265	1.82	0.38	0.82
32	261	1.61	0.49	0.61
33	266	1.92	0.27	0.92
34	266	1.29	0.45	0.29
35	261	1.52	0.50	0.52
36	263	1.87	0.33	0.87
37	264	1.83	0.38	0.83
38	264	1.84	0.36	0.84
39	264	1.79	0.41	0.79
40	269	1.93	0.26	0.93
41	256	1.78	0.42	0.78
42	267	1.85	0.36	0.85
43	264	1.84	0.36	0.84
44	264	1.83	0.38	0.83
45	267	1.80	0.40	0.80
46	262	1.49	0.50	0.49
47	259	1.78	0.41	0.78
48	261	1.39	0.49	0.39
49	260	1.58	0.49	0.58
50	265	1.72	0.45	0.72
SUM	270	34.69	7.89	

Summary of Results

The results of this study have established the reliability and validity of the PKPQ as a whole and of each item of which the instrument is comprised. It is believed that the questionnaire has adequately met the established criteria of this study, although the findings accrued for some individual items suggest their revision would improve their usefulness particularly in the later development of subscales.

The findings with respect to these items are considered and decisions regarding their retention in the questionnaire, their revision, or their omission are discussed in the following chapter.

CHAPTER V

DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

This study involved initiating the development of the Parental Knowledge of Children's Play Questionnaire which was designed to assess the extent of parents' knowledge of the functions of play in their children's development. The revised form of the instrument was administered to 270 parents in Alachua County, Florida, to establish the validity and reliability of the questionnaire. Following a discussion of the limitations of the study, interpretations of the data analyses reported in Chapter IV and directions for revision of individual items are discussed in the present chapter. The implications of the study for counseling theory, training, practice, and research conclude this chapter.

Limitations to Interpretations of Data

In Chapter III the potential limitations of the study with respect to its purpose, the administration of the instrument, and the procedures for obtaining a representative sample and for distributing the questionnaire were discussed. Further consideration of these limitations and others arising from the resulting sample is given in the present chapter.

Purpose of the Study

The primary limitation, referred to throughout this study, is specified by the purpose of the study which is to initiate rather than finalize the development of the instrument. The study is intended to identify those items which are reliable and valid measures of parental knowledge of play and development, and those items which must be revised to meet the criteria established in this study. The findings relating parental and familial characteristics to scores obtained on the PKPQ are reported to substantiate the validity of the instrument and are interpreted as normative data only to the extent that the resulting sample approximates the normal population of parents and to the extent that the PKPQ is, in its present form, a reliable and valid measure. These data are intended also to define directions for appropriate uses of the instrument and for further investigation.

Administration of the Questionnaire

Although many controls over the testing situation are lost when instruments are self-administered by subjects in their own homes and within time periods of their own choosing as was the case in this study, it is believed that test scores were not greatly influenced by these non-standard conditions. The questionnaire was designed to measure power rather than speed and requires an integrated knowledge and understanding of play and development that is not easily gained by quick perusal of child development or parenting literature nor by discussion with other parents.

Representativeness of Sample

Sampling procedure. Although the school population constitutes a large pool of parents which are thought to be representative of the general parent population, it does not include large numbers of very young parents or parents having only infant children. It was expected that by including preschools as well as elementary schools in this study that a sample more representative of the general population would be achieved. The preschools chosen require parent financial support which may influence the kind of parents who participate in those schools, particularly with respect to parents' education level. And so, inclusion of parents of a preschool population may have increased the representativeness of the sample in terms of parents' ages and their children's ages while also biasing the sample towards a higher educational level than that found in a general population of parents.

The four schools participating in this study were chosen also for their policy and practice of parental cooperation and involvement in school sponsored activities. It was believed that a higher questionnaire return rate would be achieved in schools in which parents and school personnel interacted cooperatively and in which a community spirit was present.

Distribution procedures. The process of distributing the instrument to parents in an indirect manner, that is, first through school personnel and then through children, poses another potential limitation to the representativeness of the sample. That potentiality is further heightened in the present study by the use of volunteers in all stages of the distribution process.

Additionally, most of the persons involved had no direct contact with the investigator and were not apprised of the purpose of the study. Although instructions for distribution were printed on each packet of questionnaires, it is not known if these were read or closely followed. It is believed that more personal contact would have influenced the volunteers' enthusiasm, assured more accuracy in distribution procedures, and perhaps increased the questionnaire return rate. On the other hand, requests for data collection are frequently made of school personnel and parents, and facilitating the process by directly contacting a liason only and supplying written instructions for all others involved in distribution increased the probability of initial cooperation by school personnel.

Resulting Sample

The characteristics of the resulting sample as shown in Chapter IV approximate the general parent population of school age children with respect to parent age and family size. The unequal proportion of males and females in the resulting sample substantiates the literature reporting the general practice of mothers more often than fathers participating in parenting activities. Still, for the purpose of this study, responses from 91 fathers is considerable enough for generalization to the larger population.

The percentage of persons of ethnic minority origins in the resulting sample is slightly lower than that of the general population, and the frequency count of 39 is an indication that the resulting sample may not closely resemble the general parent population on this characteristic.

The final but most significant known characteristic of subjects in the resulting sample is their level of educational attainment. A major state university and a large medical facility are centered in Gainesville; therefore, high levels of educational attainment were expected from this population. The populations of the two private school included in the study increased the probability of high levels of educational attainment among subjects. The populations of the public schools in the rural and urban areas of the county were included in the sample to counterbalance this factor. Because the number of respondents in each school was proportionally equal, it is believed that this was an effective measure in increasing the representativeness of the sample with respect to subjects' educational level. Other characteristics thought to be possessed by the resulting sample are explained and supported in the following paragraphs.

The nature and length of the questionnaire itself likely was influencial in determining the return rate as well as the characteristics of the resulting sample. It is assumed that parents who usually attend parenting related programs and activities and who are inclined to improve their parenting knowledge and skills responded to the questionnaire. As mentioned in Chapter III, correctly responding to the items of the questionnaire requires considerable knowledge of child development and the functions of play. And so, although the sample may be biased in the direction of parenting interest and knowledge, this bias is not thought to interfere with the ability of the questionnaire to discriminate between those who have knowledge and those who do not. To increase this interest in the study and the attendant response rate, parents were informed in a letter accompanying the questionnaire that they would receive an explanation of the developmental concepts on which the instrument was based.

The depth of knowledge necessary to comprehend the meaning of the underlying concepts of which knowledge is measured by the items of the questionnaire required that the items' readability level be higher than that of the average adult. For this reason it is believed that the PKPQ's readability level interfered with some parents' ability to respond to the items. From the other point of view, well-educated parents may have been offended by the relatively low readability level of the instrument. Written comments received from some respondents indicated their annoyance with the wording of some items whose meanings, when transformed to seventh grade reading level, became senseless or ambiguous to those respondents. One respondent remarked that her husband refused to complete the questionnaire because a DO NOT KNOW response category was not represented. Comments from other respondents expressed frustration at the absoluteness of TRUE-FALSE response selections. It is possible, therefore, that a number of parents were eliminated from the resulting sample either because they could not read the items, because they were offended by the low readability level, or because they were annoyed and frustrated with the nature of the response categories.

The use of volunteer parent subjects from schools would potentially bias the sample in the direction of including those parents who ordinarily respond to requests from school personnel and from their children. Since these parents are also thought to value education and take an interest in the children's learning experiences, the content of the PKPQ itself is likely to be appealing to them, thereby increasing the rate of questionnaire return among this group of parents.

Because the PKPQ will be used with parents enrolled in child development or parenting courses or participating in family therapy, it is expected that they will have a similar strong interest in their children's development as those who were included in the sample of this study. Therefore, it is assumed that the resulting sample is representative of persons participating in situations where the PKPQ might be used.

Interpretation and Discussion

This part of the chapter deals with the results of the data analyses procedures used to establish the reliability and validity of the PKPQ.

Reliability

The methods used to determine the stability and internal consistency reliabilities for the PKPQ produced high reliability coefficients.

The Pearson product-moment correlation coefficient computed for total scores of the retest group is accepted as an accurate measure of the instrument's stability over time despite some characteristic differences between the retest group and the school sample. The slight difference in mean scores for the retest group and larger sample of respondents may be accounted for by the former subjects' actual level of knowledge which may, in turn, have influenced their willingness to take the test a second time. On the other hand, many of the retest subjects were known personally by the investigator and may have been, in their willingness to assist, more careful in reading and responding to the items than the subjects in the larger sample.

Respondents' educational level of attainment was shown for the larger sample of this study to be highly related to achievement on the instrument. The reported educational level for the retest group and the respondents in the larger sample is similar, and so, it is assumed that the retest group is sufficiently representative of the larger sample for the purposes of this study.

From the high Pearson r (+.93) derived for total scores, it can be inferred that the PKPQ is a stable measure of parental knowledge over a relatively short period of time.

Knowing the degree of stability for each item is also of value since the PKPQ is designed to discriminate between those functions of play of which parents have knowledge and those of which parents do not have knowledge. Grouping items relating to similar types of play, such as fantasy play or "rough and tumble" play, into subscales would permit utilization of the instrument in this manner. Knowing the degree of stability for each item would also permit the formation of subscales by areas of development.

Calculated for these reasons, the phi coefficients and the proportion of consistent responses over the two administrations of the PKPQ showed considerable variation among the items. A high degree of chance in responding on the part of the retest group is indicated for those four items (#11, #14, #45, and #49) receiving phi coefficients of less than +.50. A synthesis of relevant findings for these four items, acquired through other means of data analyses used in this study, is presented in a latter section of this chapter. There a rationale for retaining, omitting, or rewording these items in the final form of the PKPQ is given. However, the inconsistency in responding found for these items does not significantly influence the reliability of the PKPQ when total scores are used to predict one's knowledge of the functions of play in children's development.

Validity

Three methods were employed to determine the construct validity of the PKPQ. The first of these was establishing the extent of agreement among a group of "experts" in the fields of psychology, child development, and education as to each of the item's relevancy for one of the four areas of child development. The results of the experts' judgment, reported in Chapter IV, show that 30 of the 50 items received 70% or greater agreement among the experts. From this agreement rate, it is concluded that these 30 items are related to the instruments' intent to measure parental knowledge of the relationship between play and a specific area of development. The remaining 20 items are discussed in the following paragraphs.

Although the percentage of agreement among judges received for one area of development was less than 70% for items #4, #8, #12, #31, and #44, with the exception of #9, it was as great as 65%. Item #9 received 60% agreement. Because percentages received in the remaining three categories were low or zero, it is believed that the content of these items is not so ambiguously stated that it interferes with the purpose of the instrument. These items are, therefore, accepted without revision as measuring knowledge of the developmental area for which the highest percentage of agreement among judges was received.

Items #3, #13, #32, #37, #40, #43, and #49 received equal or near equal percentages equal to or greater than 45 in the areas of social and personality development. From this information, it is concluded that judges perceived the content of those items to be related to the acquisition of both social skills and personality traits. The high percentage received for item #26 indicates that its content was perceived as overlapping the areas of cognitive and personality development.

Since these percentages are so great, it is assumed that the developmental concepts upon which the content of these items is based are perceived by the judges as being closely tied to two areas of development. In the section entitled Item Revision, findings relevant to these items, generated by other means of data analyses, are discussed and decisions as to the disposition of these seven items in the final form of the PKPQ are stated.

Items #35, #36, and #41 received equal or near equal percentages in the areas of cognitive and personality development although percentages for these categories were not so great as those received for the items split between social and personality development. The percentages received for item #30 were, to a similar extent, split between personality and physiological development. This would seem to indicate that items #30, #35, #36, and #41 evoked less certain responses from the judges because they were unable to perceive the relationship between the developmental task alluded to in the items' content and one of the areas of development. This confusion existed to an even greater extent for the content of items #20 and #28 which received near equal percentages in three categories of development; furthermore, item #20 received even a small percentage of responses in the fourth category.

It is believed that the content of these items, #20, #28, #30, #35, #36, and #41, require a more explicit statement of the developmental concept of which they are intended to measure knowledge. Hence, their revisions are considered in this chapter in a subsequent section on Item Revision.

A comparison of the mean score of the "expert" group with that of the resulting school sample, the second method of establishing construct validity for the PKPQ, revealed a significant difference between the scores of the two groups. The smaller variance among the "expert" group and their high mean score are evidence that the concepts underlying the PKPQ are related to the expertise of the group, and that the criteria upon which the selection of these individuals was based were valid. The significant difference in mean scores of this group and the school sample supports the validity of the PKPQ as an instrument which assesses knowledge of the constructs underlying children's play and development.

The final method used to establish construct validity for the PKPQ was investigating differences in total scores for respondents in the school sample differing on certain parental and familial characteristics. Finding agreement between the research findings pertaining to the functions of play in child development presented in Chapter II and scores of parents differing on certain characteristics would lend support for the instrument's being a measure of knowledge of child development concepts. It was proposed that if such agreement existed, then mothers would score higher on the instrument than fathers, older parents would score higher than younger parents, parents having completed more years of formal education would score higher than parents having completed fewer years of formal education, parents having both male and female children would score higher than parents having all male or all female children, and parents having one or two children would score higher than parents having three or more children.

The findings of an analysis of variance were that no significant differences exist among the scores of respondents differing on sex, age, family size, and sex of children; however, a significant relationship was found to exist among scores of persons differing on level of educational attainment. Therefore, of the five hypotheses proposed to establish the construct validity of the instrument, only one (i.e., that parents having completed more years of education will achieve higher scores than parents having completed fewer years of education) is supported by the present findings.

Rejection of the other hypotheses, based on the present findings, would seem to imply questionable construct validity for the PKPQ. However, considering the evidence accrued through the first two methods of establishing construct validity, other reasons than the instruments' being invalid may account for discrepancies between previous research findings and those of this study. Those reasons are considered in the following paragraphs.

Reviewing information known about the resulting sample explains, in part, why results found in the present study are discordant with those of earlier studies. In Epstein's (Note 1) study pertaining to parental age and knowledge of child development, the age of parents ranged from 14 to 19 years. A sample drawn, as it was in the present study, from a school population would, in all likelihood,exclude the majority of parents as young as those who participated in Epstein's study. Although the number of teenage parents in the school population of the present study is unknown,only one person in the resulting sample reported being younger than 20 years. Hence, a reason that differences in parental age and score did not exist in this study may be due to the fact that very young parents, like those of Epstein's study, were not represented.

The assumption that mothers would score higher than fathers on the PKPQ was based on the earlier findings that mothers possess a greater knowledge of child development than fathers by virtue of their frequent proximal contact with their children and their easier access to parenting courses, pediatricians, school personnel, and other sources of child related information. The findings of the present study, that mothers do not score higher than fathers on the questionnaire, may be cause to doubt the construct validity of the instrument or may indicate that achievement of a high score on the questionnaire requires more than a general knowledge of child development (i.e., one not readily accessible through usual sources of child development information).

Few parenting courses or courses in child development instruct parents in play skills or even impart information about the functions of play in the child's growth process. The mean score of the group of elementary education majors who participated in the initial testing of the PKPQ attests to the fact that general knowledge of child development does not necessarily include specific knowledge of the contributions of play to development. Furthermore, being in close contact does not guarantee that mother and child are engrossed in mutual play. Perhaps, as Lamb (1977) suggested, the father's role definition in many families includes playing with the children. Mother's experiences in mother-infant play and fantasy play and father's experiences in "rough and tumble" play and group games, supported by the findings of previous studies, might equalize the two parents' levels of knowledge about children's play. Investigation of this proposition is planned for a later study in which subscales will be developed from items whose content is similar with respect to types of play.

Item Analysis

The significance of the point biserial correlations for all the items of the PKPQ leads to the opinion that all items have discriminatory ability to some degree. Items such as #4, #5, #12, #15, #39, #44, and #46 have considerably greater ability to discriminate between respondents' levels of knowledge of children's play than items such as #9, #40, and #48.

The purpose of including point biserial correlations in the item analysis was to determine which items might be revised to improve their usefulness particularly in the development of subscales to be used to identify specific areas of development and types of play in which parents lack knowledge. It is believed that the three items having low correlations do not significantly interfere with the predictive ability of total scores on the PKPQ, but they are considered for revision in light of other findings of this study in the following section.

Summary of Results and Item Revision

The results of this study provide evidence that the PKPQ reliably and validly measures knowledge of play and children's development. The results also show that although the internal consistency of the items is high, individual items vary in their ability to discriminate between persons who have knowledge of the functions of play and those who do not, in their ability to elicit consistent responses over a short period of time, and in their ability to elicit a degree of certainty from judges as to their category of development.

Three items are particularly questionable. Item #28 has a mean of 1.94 combined with a r_{pbis} of .25 and a proportion of consistent responses of .91. Despite its ability to elicit consistent responding, the findings indicate it has little usefulness in discriminating between those who have a knowledge of play and those who do not. It is also one of the items which when categorized by judges produced a three-way split among the areas of development leading to the conclusion that the item statement is ambiguous in the expression of its underlying construct and should, therefore, be omitted from the final form of the PKPQ.

Item #36 has a mean of 1.87, a r_{pbis} of .40, a proportion of consistent responses of .89; it also produced a split among the judges. The implication is that this item is a reliable and moderately difficult measure which might have good discriminatory power if its underlying concept is more clearly expressed.

Item #40 has a mean of 1.93, a r_{pbis} of .17, and a proportion of consistent responses of .94. The item, because of its low discriminatory power, is not a useful item as it is presently worded. It may be its underlying construct is so simple and widely known that it is not valuable for the purposes of the instrument and should, therefore, be omitted in the final form.

Several other items, mentioned in the preceding sections, whose findings did not meet the established standards for this study, are discussed in the following paragraphs.

Items #11, #14, #45, and #49 received low phi coefficients indicating they elicited uncertainty and possibly guessing on the part of respondents. Item #11 had a phi coefficient of .45, a mean of 1.53, and a r_{pbis} of .41, and received 90% agreement among the judges as to its underlying area of development. Item #14 had a phi coefficient of .39, a mean of 1.59, a r_{pbis} of .28, and received 85% agreement among judges. Item #45 had a phi coefficient of .30, a mean of 1.80, a r_{pbis} of .40, and 90% agreement among judges. These findings indicate that items #11, #14, and #45 are useful in discriminating between those who do and do not have knowledge of play and are clearly expressive of their underlying constructs. Because a DO NOT KNOW response category did not exist on the questionnaire, parents were encouraged to respond either true or false despite their uncertainty. It is this uncertainty due to lack of knowledge to which the low phi coefficients associated with these items are attributed rather than to excessive ambiguity in item statements.

Item #49 had a phi coefficient of .21, a r_{pbis} of .39, and a mean of 1.58. Although it received 65% agreement among judges in one category of development, it also received 45% agreement in a second category. Its ability to discriminate between those who are knowledgeable and those who are not knowledgeable of play warrants its being retained in the questionnaire with revisions which improve its reliability and express more definitively its underlying construct.

It is concluded that items #28 and #40 be omitted from the final form of the PKPQ, that items #11, #14, and #45 be retained as they are presently written, and that items #36 and #49 be revised.

Three items, #9, #40, and #48 received low r_{pbis}. The suggestion for omitting #40 has been previously noted. Item #9 received a mean of 1.05, a perfect proportion of consistent responding, a r_{pbis} of .14, and percentages of agreement among judges in three areas of development although heavily weighted (i.e., 60%)

towards personality development. Item #48 received a mean of 1.39, a r_{pbis} of .17, a phi coefficient of .66 and although it was assigned to all four areas of development, it received 70% agreement in one of those areas. Although these items satisfy the criteria for discriminating between areas of development and for stability, their low r_{pbis} and high proportion of incorrect responses suggest they be revised in the final form of the PKPQ to increase their ability to discriminate between those who do and do not have knowledge of their underlying concept.

Items #3, #13, #32, #37, #43, and #49 received equal or near equal percentages among judges in two areas of development. Even less definition of developmental concept was indicated by the judges for items #20, #30, #35, #36, and #41. Items #20, #35, #36, and #41 received percentages of agreement in all four categories of development and item #30 received 45% agreement in personality development and 60% agreement in physiological development. The inability of these items to discriminate between categories of development requires that they be investigated further in relation to the findings accumulated by other means of data analyses used in this study. Suggestions for revision based on these findings have been made for items #36 and #49 in the preceding paragraphs.

All nine remaining items received high phi coefficients ranging from .56 - .83 or high proportions of consistent responding ranging from .89 - .94. Their r_{pbis} ranged from .22 - .46.

All items, with the exceptions of #30, #32, and #35, received means greater than 1.70 indicating a high proportion of correct responses for these items among the resulting sample. Only one-third of the sample responded correctly to item #30 and little more than one-half responded correctly to items #32 and #35. It is suggested that all of these nine items be revised in a manner in which more direct inference of their developmental concept can be drawn from their content.

In summary, the results of this study suggest that total scores on the PKPQ, in its present form, are reliable and valid indicators of parental knowledge of the functions of play in children's development. While thirteen items require revision to meet the criteria specified as acceptable, even in their present form, they do not detract from the overall intent of the instrument. The purpose of their revision will be to increase the questionnaire's usefulness in discriminating between the specific kinds of play and areas of development about which parents do or do not have knowledge. This information would be particularly important for professionals developing the curricula of training programs and in establishing the goals of family therapy.

In order to improve the usefulness of the items which are suggested for revision, persons knowledgeable in the areas of children's play and development and in the area of test construction will be asked to reword each of the items, using the data accrued through the methods of this study as guides for item revision. The recommendations of this group will be reported in a subsequent study whose purpose will be to finalize the instrument.

Interpretation of Findings Relating to the Resulting Sample

The findings generated by the PKPQ with respect to the extent of parent's knowledge of the functions of play are not believed to be generalizable to a great degree to a normal population of parents. The characteristics of the resulting sample, that is, the absence of very young parents, the high mean educational level of parents, and the low proportion of parents of ethnic minority origins support this conclusion. It is evident that the instrument of the study appeals to the group of parents who are well-educated, possess a strong interest in their children's developmental processes, and likely participate in child development and parenting education related activities.

With respect to the group of parents within the normal population who resemble those comprising the resulting sample, it is concluded that parents possess an insufficient knowledge of the specific ways in which play contributes to development to use the play activities referred to in this study to facilitate their children's progression through developmental stages of childhood.

The finding that differences in test scores did not exist among younger and older parents (i.e., between the ages of 19 and 48), among parents having one or two and more children, among parents having all female children suggest that the accumulation of experience gained through age, through parenting more than one or two children, and through parenting children of different sexes does not affect one's knowledge of the functions of play in children's development. Apparently, knowledge of play is gained through other means. The finding that differences on test scores did not exist between mothers and fathers leads to the conclusion that being more often in close proximity to the child and having greater access to knowledge of child development and parenting practices is not necessarily related to one's knowledge of play. The findings that both mothers and fathers and experienced parents possess a low level of knowledge of play is construed to mean that all these parents have a need for instruction in the area of play and development.

That general educational level, though it is highly correlated with total score on the PKPQ, does not wholly account for one's score on the instrument is suggested by the finding that a group of "experts" in the fields of child development, psychology, and education with experience in play therapy received a significantly higher mean score on the PKPQ than did the school sample, despite the high educational level of this latter group. This is interpreted to mean that knowledge required to respond correctly to all items of the questionnaire is not acquired simply through the attainment of a higher educational level but through the specialized study of children's play and development.

Even more significant is the finding that the mean score (reported in Appendix D) of the elementary education majors, enrolled in a human development seminar at the University of Florida, though higher than that of the school sample was not as high as might be expected of persons whose career is teaching young children. This finding further substantiates the conclusion that a knowledge of the functions of play requires specialized instruction in that area.

In summary, the interpretations of the findings relating to the resulting sample are that all parents to some degree need information and training in the functions of play in children's development and that, although general education contributes to knowledge of play, specialized instruction is required to master the concepts underlying the relationship between play and development.

Implications of the Study

From the literature, it is apparent that play has a vital role in family relationships and functioning. Mother-infant play not only initiates healthy family relationships but, in concert with fantasy play, "rough and tumble" play, and group games, is the foundation upon which all the young child's learning experiences are built. Promoting the child's acquisition of social skills, cognitions, and healthy physiology and personality is among the primary functions of a family. The implication of this study is that the low level of knowledge of play on the part of parents is likely a factor influencing not only family relationships but also the family's function as an instructional resource for children.

This proposition, before it can be incorporated into counseling theory, must be further substantiated by investigations of the relationship between knowledge of play and the ability of family members to engage in the various kinds of play activities represented in this study as well as of the relationship between playfulness and family functioning. With the development of the PKPQ, discovery of the nature of these relationships becomes more immediate.

Inferred from this study is that at least one parental characteristic (i.e., level of educational attainment) influences parents' knowledge of play. Also suggested is that a deficiency in knowledge of play exists similarly in mothers and fathers and in experienced parents. As a research tool, the PKPQ can be used to substantiate the tentative conclusions of the present study with respect to the parental and familial characteristics investigated here as well as others not included in this study.

In summary, once the PKPQ is refined by improving the reliability and validity of some of its items, and more unequivocal normative data than that suggested in the present study are established, it will be useful for furthering knowledge of factors influencing parenting behavior, parent-child relationships, and family functioning.

Cognizance of the functions of play is basic to the acquisition of play skills referred to in this study and to the ability to use those skills in specific ways to develop and enhance family relationships; however, appreciation alone is insufficient. Family members must also recognize the need for certain kinds of play as it arises and must possess the skills which enable them to engage in play with other family members.

Since play is a way to establish bonds among family members as well as a way to facilitate the separation process, the use of play as a counseling medium or technique is important for counseling practice, particularly that based on developmental and family systems models. It is inferred from the tentative conclusions of this study that parents are unaware of these attributes of play; therefore, in those families where strengthening bonds of facilitating separation of family members is a goal of therapy, providing knowledge of play and opportunity to develop play skills within the counseling experience would contribute to the therapeutic process.

A further implication for counseling practice is the development of programs, courses and literature designed to increase parents' knowledge of the specific functions of play, and instruct parents in play skills which enhance their children's development. Developmental play therapy programs, founded on the principles of play and the play activities mentioned in this study, have been developed using adult volunteers in play with children. Early evaluations of the success of these programs show positive gains for the children involved. In a similar program the inclusion of the trained parent rather than the volunteer as a playmate for the child would further enhance those gains.

In order to develop and implement such programs involving parents, counselors must be able to not only instruct parents in play techniques but also must be able to join with them in being playful to eliminate their discomfort with "childish" activities and convey the importance of play without making it into an arduous task in which excellence is expected or even desired.

Although play therapy course work and experience is usually a part of the curricula of counselors trained to work with children in either a school setting, community agency, or private practice, teaching parents to play is absent from these curricula. The ability to teach parents cannot be assumed by one's experience in play with children.

Parents similar to those who comprised the resulting sample, who might participate in play programs with their children, are likely to be eager to learn the methods which will enhance their children's development. As mentioned in the literature review, directing a child's play may interfere rather than assist with the learning experience. Too much eagerness and desire to play the correct way on the part of parents may destroy children's willingness to play with their parents and cause disruption in the parent-child relationship.

Additionally, the dyadic play activities upon which most play therapy programs are founded exclude, by definition, all other family members. The effects of this exclusion and of the bonding process between the parent and child play partners must be considered to prevent an undesirable imbalance in the family's system.

Therefore, training parents to play with their children requires that counselors be not only knowledgeable in the area of play and development but also sensitive to all the intricacies of the parent-child relationship and the effects of the two engaging in an activity which bonds them and excludes other family members. This knowledge and understanding of the parent-child relationship and of family systems should be a part of the training program of counselors who intend to develop and implement programs teaching parents to play with their children.

The results of this study also suggest a need for instruction in play and development among teachers. In order to fulfill this need, elementary education curricula must be expanded to include information on the functions of play. Additionally, the development of inservice training programs in which the value and techniques of play are taught to persons in these fields is required. Again, this would necessitate that experience in working with adults in this manner be provided by counselor training programs.

With the development of the PKPQ, an objective evaluation can be made of the effects of programs teaching parents and children and teachers and children to play in ways which enhance children's development, and of therapies incorporating play as a technique to solidify family bonds and structure boundaries between subsystems (e.g., parents and siblings) within the family.

Moreover, using the PKPQ conjointly with measures of parental attitudes and observed behaviors, a more comprehensive and convincing evaluation can be made of existing infant stimulation programs and parenting courses as well as new specialized treatment programs which may arise as a result of this study and the recent rise in interest among therapists in involving parents and children in treatment together.

APPENDIX A

OUTLINE OF PRELIMINARY PROCEDURES IN THE DEVELOPMENT OF THE PKPQ

The following steps were taken in constructing the PKPQ for use in the present study.

I. Review of Literature
  - A. Studies related to the role of play in children's development
  - B. Studies related to the role of parents in parent-child play
  - C. Studies related to factors influencing parents' child-rearing practices

II. Selection of concepts of which parental knowledge is to be assessed by the instrument
  - A. Criteria for inclusion of concepts
    - 1. concepts most often mentioned in the literature relating to the role of play in all areas of children's development
    - 2. concepts reflecting parental involvement in their children's play
    - 3. concepts which are considered to be within the competency of most parents
  - B. Outline of theoretical concepts to be included in each of the four categories of development (i.e., cognitive, social, personality, and physiological development)
  - C. List of specific concepts

III. Selection of format for instrument
  - A. Length of instrument
    - 1. Fifty items
  - B. Nature of items
    - 1. True-False items

IV. Generation of items from concepts
  - A. Initial writing of items
  - B. Rewording of items for seventh and eighth grade readability

V. Review and revision of wording of items by faculty members knowledgeable in the area of test construction or child development

VI. Testing of preliminary form of the PKPQ

   A. Administration of PKPQ to students majoring in Elementary Education
   B. Analysis of data collected

VII. Revision of PKPQ resulting from its initial administration

   A. Rewording of Item #22
   B. Revision of personal data requested from participants in study

APPENDIX B

SPECIFIC CONCEPTS TO BE ASSESSED BY INSTRUMENT

Item

1. The child's ability to sustain mutually enjoyable play with other children depends on his/her having had play experience with a cooperative adult.
2. Games involving verbal and number cues result in greater improvement in learning than training from workbook procedures which involve drill and rote learning.
3. Eye-contact between parent and child is the beginning of a mature communication system which involves both verbal and non-verbal expression of feeling and thought.
4. Play provides for the exploration of alternative combinations which permit the serial ordering of acts necessary for successful task completion.
5. The failure to explore in early childhood is related to difficulties in personality and social adjustment in girls.
6. Children who do not acquire "rough and tumble" play behaviors by the age of three years are likely to become "verbalists" while those who do may become "doers".
7. Symbolic play promotes the ability to confront and solve problems by providing the opportunity for practice and the freedom to notice details and possibilities.
8. The provision of a playful atmosphere in the home facilitates manifestation of creativity.
9. Symbolic play promotes the integration of new situations, objects, and events.
10. Cognitive gains made by children in intervention programs are not maintained when parents are not involved in those programs in a significant and systematic manner.
11. The climate of playfulness created by "rough and tumble" family play strengthens bonds between family members and increases the child's willingness to cooperate with family members.

12. Acquisition of cognition is dependent upon the formation of attachment between the infant and its primary caregiver; attachment is established and maintained in early infancy through caregiver-baby play, that which involves mutual touching, caressing, and holding.

13. A sense of trust between parents and their child develops by the time the child is 12-15 months old.

14. Being tactful, that is having a sense of what is fitting and proper behavior, is related to a person's tactile experience in infancy and early childhood.

15. The voluntary and self-initiated characteristics of free play permit the child to be open to alternatives and to gain practice in assembling objects in unusual ways without the pressure of goal-attainment.

16. The child tests and extends the immediate consequences of her/his behavior through repetition with slight variation of movements.

17. Fantasy play enables the child to assimilate in small pieces experiences which at their occurrence in reality may be beyond the child's capacity for accommodation.

18. Group games with rules promote the child's ability to follow directions.

19. There is a positive relationship between parents' treatment of their child and the child's IQ.

20. The child's self-expression and creativity are fostered in play that is self-initiated and voluntary.

21. Gentle physical play characterized by caressing and holding promotes feelings of trust between parents and their child.

22. Play promotes the child's separation from his/her parent and the individuation of both parent and child.

23. The child understands things and events through construction and reinvention of them in play.

24. Group glee which expresses the pleasure of being together contributes to the child's willingness to cooperate with the teacher and the other classmates.

25. The ability to intimately communicate through touch correlates positively with self-esteem.

26. Playful kindergartners do better on divergent thinking tasks, have a greater fluency of ideas, originality, and flexibility than unplayful kindergartners.

27. Children assimilate knowledge about the world through play activities in which they participate long before their entrance into school.

28. Symbolic play promotes the acquisition of speech and verbal expression of feeling and thought.

29. Group games in which the child acts in effective coordination with others encourage cooperation.

30. The parent's holding, carrying, cuddling, and rocking of her/his infant play a significant role in the development of later sleep habits.

31. The conclusions worked out by the child through fantasy facilitate the child's final adjustment; interpretations of the problem to the child hinder this adjustment.

32. As with other behaviors, children learn playfulness through their parents modelling of playfulness; parents' ability to be playful with their child is contingent upon their feeling contented and competent in the parenting role.

33. Adults with the most interesting and fulfilling lives are those who have a sense of playfulness about them.

34. Play produces the flexibility that makes tool using possible because it provides opportunities to try out variants of a new skill.

35. "Rough and tumble" play and "thrill-seeking" behavior in children contribute to the development of emergency skills.

36. Symbolic play establishes boundaries between fantasy and reality.

37. Group games with rules promote the child's development of self-control.

38. Touch provides young children with the assurance that they are valued and wanted which permits them to establish close contact relations with others when they are older.

39. Through symbolic play the child acquires fluency with social rules and conventions.

40. Play is the medium through which the child communicates her/his thoughts and feelings.

41. Touch promotes the child's understanding of object relations and her/his ability to differentiate herself/himself from other objects.

42. Because the consequences of one's actions are minimized in play, the child can test the limits of his actions and learn through that activity in relative safety.

43. "Rough and tumble" play provides a release for aggressive feelings and promotes the development of control over the intensity and the target of aggressive behavior.

44. Symbolic play promotes objectivity in working and thinking habits.

45. The stages of development contributing to a healthy personality (i.e., a sense of trust, independence, initiative, and the beginnings of a sense of accomplishment) are facilitated through play with parents.

46. A rocking motion produces a gentle stimulation of the child's skin with beneficial physiological effects on almost all internal organs and systems; rocking increases the young child's feeling of relatedness and calms her/him during emotional distress.

47. By the age of 15 months, the child who has engaged in the game of "Peek-A-Boo" with her/his parent will take the role of initiator rather than recipient, revising and varying the rules within the game's structure.

48. The proximity of parents encourages exploration in the child.

49. "Play-fighting" with their children provides parents with an opportunity to teach their child how to use aggressive behaviors in socially acceptable ways.

50. Make-believe play in the presence of a reassuring adult can be used to get a child accustomed to something she/he fears.

APPENDIX C

PROCEDURE FOR ESTABLISHING READABILITY LEVEL OF THE PKPQ

After the initial writing of items to be included in the PKPQ, the readability formula, devised by Dale and Chall (1948), was applied to estimate the reading level required for completing the questionnaire. The method of obtaining readability scores involves taking samples of approximately 100 words each, counting the number of sentences and the number of difficult words (i.e., those not included in the Dale list of 3000 Words), and substituting these figures in the Dale-Chall Formula.

Using the Dale List of 3000 Words for reference, items of the PKPQ were rewritten until each sample of words received a readability score of less than 6.6. Each item of the PKPQ was included in one of the samples. Although it is thought that some items are more difficult to read than others, the average score for the instrument is 6.2. According to Dale and Chall, formula scores ranging between 6.0 and 6.9 reflect seventh and eighth grade reading levels.

APPENDIX D

PROCEDURES FOR PRELIMINARY TESTING OF THE PKPQ

The preliminary form of the PKPQ (see Appendix E) was administered by the present investigator to 31 students in a Human Development seminar series at the University of Florida as part of their regular class activity format.

Of the 31 students majoring in Elementary Education, 16 declared themselves to be of junior ranking, 14 of senior ranking, and one omitted the information. All the students were female and all were Caucasians, with the exception of one student who was Black. Students' ages ranged from 19 to 38 years.

An analysis of their responses to the 50 PKPQ items showed the mean score of the group to be 38.77 with a standard deviation of 5.00. Perusal of the items showed that the item most frequently responded to incorrectly was #22.

Since one purpose of the preliminary testing was to determine which items were ambiguous or misleading, the discovery of a high rate of incorrect responses for Item #22 led to its being revised. The original item read as follows:

> Play between parents and their child makes it easier for parents to let their child grow away from them.

The item was changed on the revised form to read:

> Play between parents and their child makes it easier for parents to let their child grow into a separate individual.

Another purpose for preliminary testing of the PKPQ was to establish the length of time necessary for completion of the questionnaire. The time from dissemination of the questionnaire to the students until the last questionnaire was returned to the investigator was approximately 20 minutes. Since the reading level of the PKPQ is estimated to be seventh and eighth grade level, it is assumed that college students are able to complete the questionnaire within a shorter period of time than the average participant in the sample to which the revised form of the PKPQ is to be administered.

The final reason for the preliminary testing of the PKPQ was to determine subjects' reactions to the questionnaire. Although a class of Elementary Education majors has a high level of interest in child development and, therefore, likely to be interested in the questionnaire, there is always the potential for students to resist being a captive audience for research. Despite the emphasis on voluntary participation and the absence of coercion on the part of the instructor or investigator, all the class members accepted questionnaires and after looking them over, responded to the statements and returned the forms to the investigator. This favorable reaction is an indication of the general acceptability of the questionnaire.

APPENDIX E

PRELIMINARY FORM OF THE PKPQ

Please give the following information about yourself:

AGE__________ SEX__________ RACE__________

COLLEGE MAJOR AND CLASSIFICATION____

Please give the names and a brief description of the courses in Child Development which you have taken in your academic program:

____

____

____

If you are a parent, please list the sex and age of each child living in your household:

SEX	AGE
__________	__________
__________	__________
__________	__________
__________	__________
__________	__________

Please read each statement carefully. Circle T if you think the statement is true. Circle F if you think the statement is false.

1. Playing with an ill-tempered playmate is easier if a child has played with an adult who is easy to get along with. T F

2. Children learn more by using workbooks than by playing word and number games like "Simon Says", "Mother May I", and counting toes and fingers. T F

3. Parents teach their children to share their thoughts and feelings without using words by looking into their children's eyes while talking to them. T F

4. The behaviors needed to carry out a task are not learned through free play. T F

5. Being free to explore in play has little to do with how well girls get along with others when they are older. T F

6. If "rough and tumble" play is not learned by the age of three, the child is likely to become a "talker" rather than a "doer". T F

7. The way to teach children to look for problems and discover answers is to make-believe play with them. T F

8. Children who have a playful home life are more likely to show their creativity. T F

9. The best way to help children become comfortable with something new (like the first day of school) is to tell them what it will be like. T F

10. Programs set up to help children learn are more likely to be successful if parents are not included in them. T F

11. "Rough and tumble" play is a way family members learn to cooperate with each other. T F

12. Children's ability to learn does not depend upon whether they have been touched and held in gentle play. T F

13. Trust between parents and their child begins when the child has learned to use language. T F

14. Tact (knowing the proper thing to say and do) is learned through gentle physical play in early childhood. T F

15. Children learn problem-solving through free play. T F

16. Children learn by repeating movements and making small changes in those movements. T F

17. Children learn more through real experience than through make-believe play. T F

18. Games with rules, like "Peek-A-Boo", "Simon Says", and "Duck-Duck-Goose", teach children to follow directions. T F

19. The way parents act toward their child has little effect on that child's IQ. T F

20. Parents must direct their child's play if they expect the child to get something worthwhile from play. T F

21. The way to build trust among family members is through gentle touches and hugs in a family play. T F

22. Play between parents and their child makes it easier for parents to let their child grow away from them. T F

23. In order for children to understand how something works or how something happens, it must be explained to them in words. T F

24. The way to get children to cooperate in the classroom is to allow them to laugh and have fun together. T F

25. Having good feelings about one's self has little to do with being able to touch other people. T F

26. Playful kindergartners have more original thoughts and a greater flow of ideas than unplayful kindergartners. T F

27. Children understand and use what they know about the world after they begin orderly instruction at school. T F

28. Make-believe play is the way children learn to put their thoughts and feelings into words. T F

29. Parents can teach cooperation by dancing and playing rhyming games with their child. T F

30. Rocking children helps them to have healthy sleep habits which may last all through life. T F

31. Allowing children to act out (in make-believe play) wishes and happenings they cannot understand will make it hard for them to accept things as they really are. T F

32. A child's behavior depends upon whether the child's parents believe they are doing a good job as parents. T F

33. Being playful with children improves their chances of having interesting and fulfilling lives when they grow up. T F

34. If a new tool or toy is to be used to aid the child's development, parents must teach their child its proper use. T F

35. "Rough and tumble" play and "thrill-seeking" acts help children learn how to take care of themselves in an emergency. T F

36. Make-believe play confuses the child about what is real and what is make-believe. T F

37. Games like "Kick the Can", "Red Rover", and "Hide and Seek" teach the child self-control. T F

38. Young children who are not touched often by their parents find it hard to make close friends when they grow up. T F

39. In make-believe play, children learn rules that help them get along in the world. T F

40. Children don't learn to share their thoughts and feelings until they can talk. T F

41. Children learn to separate themselves from other things through touch. T F

42. Cause and effect relationships (that is, what causes things to happen) are not learned through free play. T F

43. "Rough and tumble" play helps children learn to control the force and direction of their aggressive feelings. T F

44. Good working and thinking habits are not learned in make-believe play. T F

45. Play between parents and their child must take place in early childhood if the child is to have a healthy personality. T F

46. A way to aid children's physical and mental growth is to rock them during early childhood. T F

47. The game "Peek-A-Boo" can be used to get children to start doing things on their own. T F

48. Children are more likely to explore new situations and things if their parents are not nearby. T F

49. "Play fighting" with children is a way to change the direction of their aggression. T F

50. The way to help children get over a fear is to make-believe play with them about what is frightening to them. T F

APPENDIX F

PARENTAL KNOWLEDGE OF CHILDREN'S PLAY QUESTIONNAIRE

Revised Form

Please give the following information about yourself:

AGE__________ SEX__________ RACE__________

What is the last grade of school you have completed?__________________

Please list the sex and age of each child living in your household:

AGE	SEX	AGE	SEX
__________	__________	__________	__________
__________	__________	__________	__________
__________	__________	__________	__________
__________	__________	__________	__________
__________	__________	__________	__________

Please read each statement carefully. Circle T if you think the statement is true. Circle F if you think the statement is false.

1. Playing with an ill-tempered playmate is easier if a child has played with an adult who is easy to get along with. T F

____

2. Children learn more by using workbooks than by playing word and number games like "Simon Says", "Mother May I", and counting toes and fingers. T F

____

3. Parents teach their children to share their thoughts and feelings without using words by looking into their children's eyes while talking to them. T F

4. The behaviors needed to carry out a task are not learned through free play. T F

5. Being free to explore in play has little to do with how well girls get along with others when they are older. T F

6. If "rough and tumble" play is not learned by the age of three, the child is likely to become a "talker" rather than a "doer". T F

7. The way to teach children to look for problems and discover answers is to make-believe play with them. T F

8. Children who have a playful home life are more likely to show their creativity. T F

9. The best way to help children become comfortable with something new (like the first day of school) is to tell them what it will be like. T F

10. Programs set up to help children learn are more likely to be successful if parents are not included in them. T F

11. "Rough and tumble" play is a way family members learn to cooperate with each other. T F

12. Children's ability to learn does not depend upon whether they have been touched and held in gentle play. T F

13. Trust between parents and their child begins when the child has learned to use language. T F

14. Tact (knowing the proper thing to say and do) is learned through gentle physical play in early childhood. T F

15. Children learn problem-solving through free play T F

16. Children learn by repeating movements and making small changes in those movements. T F

17. Children learn more through real experience than through make-believe play. T F

18. Games with rules, like "Peek-A-Boo", "Simon Says", and "Duck-Duck-Goose", teach children to follow directions. T F

19. The way parents act toward their child has little effect on that child's IQ. T F

20. Parents must direct their child's play if they expect the child to get something worthwhile from play. T F

21. The way to build trust among family members is through gentle touches and hugs in family play. T F

22. Play between parents and their child makes it easier for parents to let their child grow into a separate individual. T F

23. In order for children to understand how something works or how something happens, it must be explained to them in words. T F

24. The way to get children to cooperate in the classroom is to allow them to laugh and have fun together. T F

25. Having good feelings about one's self has little to do with being able to touch other people. T F

26. Playful kindergartners have more original thoughts and a greater flow of ideas than unplayful kindergartners. T F

27. Children understand and use what they know about the world after they begin orderly instruction at school. T F

28. Make-believe play is the way children learn to put their thoughts and feelings into words. T F

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29. Parents can teach cooperation by dancing and playing rhyming games with their child. T F

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30. Rocking children helps them to have healthy sleep habits which may last all through life. T F

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31. Allowing children to act out (in make-believe play) wishes and happenings they cannot understand will make it hard for them to accept things as they really are. T F

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32. A child's behavior depends upon whether the child's parents believe they are doing a good job as parents. T F

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33. Being playful with children improves their chances of having interesting and fulfilling lives when they grow up. T F

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34. If a new tool or toy is to be used to aid the child's development, parents must teach their child its proper use. T F

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35. "Rough and tumble" play and "thrill-seeking" acts help children learn how to take care of themselves in an emergency. T F

---

36. Make-believe play confuses the child about what is real and what is make-believe. T F

---

37. Games like "Kick the Can", "Red Rover", and "Hide and Seek" teach the child self-control. T F

---

38. Young children who are not touched often by their parents find it hard to make close friends when they grow up. T F

---

39. In make-believe play, children learn rules that help them get along in the world. T F

---

40. Children don't learn to share their thoughts and feelings until they can talk. T F

41. Children learn to separate themselves from other things through touch. T F

42. Cause and effect relationships (that is, what causes things to happen) are not learned through free play. T F

43. "Rough and tumble" play helps children learn to control the force and direction of their aggressive feelings. T F

44. Good working and thinking habits are not learned in make-believe play. T F

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46. A way to aid children's physical and mental growth is to rock them during early childhood. T F

47. The game "Peek-A-Boo" can be used to get children to start doing things on their own. T F

48. Children are more likely to explore new situations and things if their parents are not nearby. T F

49. "Play fighting" with children is a way to change the direction of their aggression. T F

50. The way to help children get over a fear is to make-believe play with them about what is frightening to them. T F

APPENDIX G

PROCEDURE FOR CONTACTING PARTICIPATING SCHOOLS

A copy of the revised form of the PKPQ and a letter explaining the investigation and requesting the school's participation in distributing the PKPQ to parents of children enrolled in the school (see Appendix H) was sent to the principal or director of each of the four schools included in the sample.

Upon confirmation of the school personnel's willingness to assist the investigator, information describing the population of each school was obtained and procedures for disseminating the PKPQ to teachers in the classrooms of children whose ages are appropriate for the study were outlined.

APPENDIX H

LETTER TO SCHOOL PRINCIPALS AND DIRECTORS

Rt. 1, Box 1110
Newberry, FL 32669
February 20, 1980

Dear

I am writing to request help from you on a research project that I am undertaking as part of the requirements for a doctoral degree.

I am interested in looking at what parents know about the developmental and therapeutic functions of play. I have written a test of 50 True False items, based on developmental and play theories, to assess parents' knowledge in this area. It is my hope to use the data from the test results to demonstrate the need for programs in which parents would be taught to play with their young children in ways which promote the child's development and reduce the possibility of interference in the child's progression through the various stages of cognitive, social, and personality development.

In order to standardize the test items, I must administer the test to 600 parents of children seven years old or younger. My access to that number of parents must come through elementary schools and preschools. For this reason, I am requesting that you distribute tests to the teachers in your preschool. The teachers could send the tests home to parents with the children in your school. The nature of the research and the voluntary and anonymous participation of parents is explained in a cover letter to parents that will accompany each test. Parents could return the tests by having their child place them in a manila envelope located in the child's classroom or by mailing them directly to me. (Copies of the cover letter to parents and the test are attached to this letter.) Parents will be asked not to put their names on the test, and no attempt to identify individuals will be made.

In my dissertation, I will be answering the general question of what parents know about the functions of play in their child's development. The data will be analyzed and reported in terms of age and sex of parents, and sex of their children. Differences in geographical locations is not a concern in this study, and so the data collected from parents who have children enrolled in your school will be compiled with that collected elsewhere. Besides myself, no one will know which tests come from a certain location.

February 20, 1980
Page 2

In addition to needing your help in distributing the tests to parents, I will need some basic demographic information about the school's population, and particularly about the pupils enrolled in the classrooms from which I am asking participation in the study. I would like to have the total number of pupils enrolled, the number of white and non-white pupils, and the number of male and female pupils in order to describe the population from which the sample is to be drawn. This demographic information will be reported in my dissertation along with the names of all the schools participating to show the representative nature of the sample selection process. Individual schools will not be associated with particular test results.

I shall call your office to make an appointment to talk further with you about this study and my request for your assistance. I look forward to talking with you soon.

Sincerely yours,

Sandra S. Sullivan
Graduate Student
Department of Counselor Education
University of Florida

SS:sf

cc: Dr. Larry C. Loesch
Associate Professor
Department of Counselor Education
University of Florida

APPENDIX I

INSTRUCTIONS TO CLASSROOM TEACHERS FOR DISTRIBUTING QUESTIONNAIRES TO CHILDREN

As part of my dissertation research, I am collecting data from parents to establish the validity and reliability of a questionnaire designed to measure parental knowledge of the functions of play in children's development.

Your school principal or director has given permission for me to collect that data in your school. I shall very much appreciate your help in distributing the questionnaires to all the children in your classroom before the end of the school day, Tuesday, April 29.

Since I am hoping to receive responses from both mothers and fathers, please give two copies of the questionnaire to each child even if you know that the child is living with only one parent. If a child identifies himself/herself as needing only one questionnaire, you can accept the extra one from him/her. Otherwise, follow the same procedure for children of single parent families as for those of two-parent families.

In order to standardize the distribution procedure, instruct the children in the following manner:

> Please take the questionnaires home to your parents and ask them to complete them. Bring the questionnaires back to school or have your parents mail them in the attached envelopes.

Please do not interpret the purpose of the research study or the questionnaire to the children or their parents. A letter to parents explaining the nature of the study is attached to the questionnaire. Further questions from parents should be referred to me.

As questionnaires are returned to school, please instruct children to place them in the manila envelope which has been provided for that purpose. I will collect the questionnaires at the end of the week.

After collecting the questionnaires, I will give you copies of the concepts upon which the items of the questionnaire are based so that you can send these home to all parents, whether or not they have returned questionnaires.

Again, I shall appreciate your assistance in collecting the data, and I shall be pleased to respond to any questions or comments you may have regarding the study.

Sandra S. Sullivan, Graduate Student
Department of Counselor Education
University of Florida
Phone #472-2306 or 392-4661

SSS:sf

APPENDIX J

LETTER TO PARENTS

Dear Parent:

We are interested in looking at parents' knowledge of their children's play activities. We would very much appreciate your help in providing information for the study.

Your participation is completely voluntary. If you agree to take part in the study, please answer the questions about yourself and your family, and answer "true" or "false" to the statements on the enclosed form. Mothers and fathers should complete separate questionnaires.

You do not need to write your name on the form. We will be looking at the results of all the tests returned, rather than at any one person's answers.

An envelope has been provided in your child's classroom where the test may be placed when you have finished it. You may return the test to us by sending it to school with your child or by mailing it in the enclosed envelope.

If you have any questions about the test or how the results will be used, please call Sandra Sullivan at 472-2306 or write to: Sandra Sullivan, Rt. 1, Box 1110, Newberry, Florida 32669.

Thank you,

Sandra Sullivan, Graduate Student
Counselor Education Department
University of Florida

Larry C. Loesch, Associate Professor
Counselor Education Department
University of Florida

SS:LL:sf

APPENDIX K

JUDGES' FORM FOR CATEGORIZING PKPQ ITEMS

NAME____________________ DATE_______________

Please indicate to which area of development you think each item is most related. If you think an item relates to more than one area, rank order the areas (1-being most related). If you think it relates to two or more areas equally, give those areas the same rating. If you don't know to which area an item relates, put a question mark in the margin next to the item number. Thank you for your assistance. Sandi Sullivan 472-2306.

ITEM #	cognitive development	social development	personality development	physiological development	ITEM #	cognitive development	social development	personality development	physiological development
1					26				
2					27				
3					28				
4					29				
5					30				
6					31				
7					32				
8					33				
9					34				
10					35				
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20					45				
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22					47				
23					48				
24					49				
25.					50				

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BIOGRAPHICAL SKETCH

Sandra S. Sullivan was born in 1942, in Montgomery, West Virginia, where she lived with her parents and older sister until 1960. At that time she attended West Virginia University in Morgantown where she majored in elementary education. Upon completion of the B.S. degree, she entered graduate school in counselor education at the University of Florida in Gainesville. Ms. Sullivan received the M. Ed. degree in 1964.

After that time Ms. Sullivan was employed as a counselor for the University of Florida Division of Housing and as an elementary school teacher in Waynesboro, Virginia. She also served as a volunteer in nursery and elementary schools and in juvenile detention settings.

After a number of years during which she pursued her interests in the creative arts, in travel within the United States and abroad, and in parenting her own children, Ms. Sullivan returned to the University of Florida in 1977 to complete requirements for the Doctor of Philosophy degree in Counselor Education. While in graduate school, she held several assistantships which involved developing and providing inservice training programs for vocational counselors and counselors working with older persons as well as training and supervising volunteers in relationships with predelinquent youngsters in Project Diversion.

During her participation in the doctoral program, Ms. Sullivan interned at the Child, Youth and Family Center of North Central Florida Community Mental Health Center where she developed her interests in play therapy and family therapy.

Ms. Sullivan presently resides with her two children in Newberry, Florida. There she is active as a Cub Scout leader, a baseball coach of young children, and a volunteer parent in her children's school. Her future plans include expanding a private counseling practice for children and their families in the Newberry area and developing family education programs.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Larry C Loesch

Larry C. Loesch, Chairman
Professor of Counselor Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Paul W. Fitzgerald

Paul W. Fitzgerald
Professor of Counselor Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

J. Milan Kolarik
Professor of Psychology

This dissertation was submitted to the Graduate Faculty of the Department of Counselor Education in the College of Education and to the Graduate Council, and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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Francis G. Stehli, Dean
Graduate Studies and Research